



# *Town of Lunenburg*

## OPEN SPACE AND RECREATION PLAN UPDATE 2011

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## SECTION 1: *Plan Summary*

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The Open Space and Recreation Plan (OSRP) for the Town of Lunenburg provides both a planning and action framework to address the current and future needs of conservation and recreation land, agricultural land, corridors and parks, and greenways. The OSRP results in a planning document that covers a five-year window as prescribed by the Massachusetts Executive Office of Energy and Environmental Affairs (EEA, formerly the Executive Office of Environmental Affairs or EOE) Division of Conservation Services guidelines.

The overarching goals for this effort include achievement in the following areas:

- preserve the unique rural residential characteristics of the town
- enable the effective and efficient use of land in a manner that blends the conflicting needs of development and preservation
- conserve scarce natural resources and protect critical environmental areas
- facilitate access to and enjoyment of open spaces in support of recreational interests
- address the needs of handicapped individuals in terms of access and usage
- establish a broad based consortium of individuals and committees who will facilitate the implementation of this plan

## SECTION 2: *Introduction*

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### **2.A. Statement of Purpose**

The purpose of the Open Space and Recreation Plan is to establish goals and develop a plan for the proactive management of Lunenburg's open space areas and recreation facilities.

The Plan is also intended to provide an actionable guide for future preservation and conservation of natural resources in Town by utilizing a variety of protection techniques such as acquisition of private land through purchase, employing conservation restrictions, and preservation of agricultural land via the Agricultural Preservation Restriction (APR) program. Where development is inevitable and purchase is not feasible, the Town can protect land by working with developers to implement clustering techniques or other approaches where open space set-asides are created.

The successful completion of this plan is a prerequisite milestone in the process of distributing the Self-Help, Urban Self-Help, and Land and Water Conservation Fund grant funding by the Massachusetts Executive Office of Energy and Environmental Affairs.

The 2009– 2014 OSRP is the continuation of plans dating from 1978, 1985, 1990, and 1998. Lunenburg has a long and distinguished record of achievement in the area of open space protection and stewardship stemming from the creation and implementation of earlier plans.

### **2.B. Planning Process and Public Participation**

The initiation of the Lunenburg OSRP began in 2007 when a group of concerned citizens inquired about the current status of the OSRP in town. Finding the plan to be out of date, the citizens worked with the Planning Director to inquire about forming a committee. The Planning Director approached the Selectmen and Planning Board and directed a sub-committee of the Land Use Advisory Committee be established to embark on updating the plan.

Members of the Open Space Sub-Committee included Planning Board, Conservation Commission, and Land Use Committee representatives, three "at-large" members, and a variety of non-voting advisory members representing a variety of other community interests. The first meeting of the Open Space Sub-Committee met in September of 2007, where working groups were established, thus dividing the plan components up amongst the group for careful revision.

Feedback from residents was viewed as a core component of the planning process. Once the general outline of the plan revision was underway and some critical information-gathering was completed, the Open Space Sub-Committee embarked on an outreach campaign to both gather ideas and input from townspeople as well as to build momentum and support for the plan. These outreach efforts included:

- Survey of residents mailed with tax bill (4546 mailed), available for download on the town website, and available for pick-up and drop-off at the Town Clerk's office and at the Library (532 returned).
- Newspaper articles
- Conservation Commission – sponsored walks where open space needs and planning efforts were discussed with participants.
- Public forum with various town boards and officials.

- Outreach during a contemporaneous land protection opportunity (Chapter 61A withdrawal of Levite property) that provided a unique opportunity to engage residents during a time of heightened awareness, including before a special Town Meeting.

From this effort, a draft plan was written and revised by all members of the Open Space Sub-Committee soliciting review and feedback. Subsequently, with edits integrated into the document, the final draft was compiled. Copies were distributed to every Board and Committee as well as made available to the public via a distribution at Town Hall. After integrating additional edits and feedback, the final plan was submitted to the EEA Division of Conservation Services for review and approval.

## SECTION 3: *Community Setting*

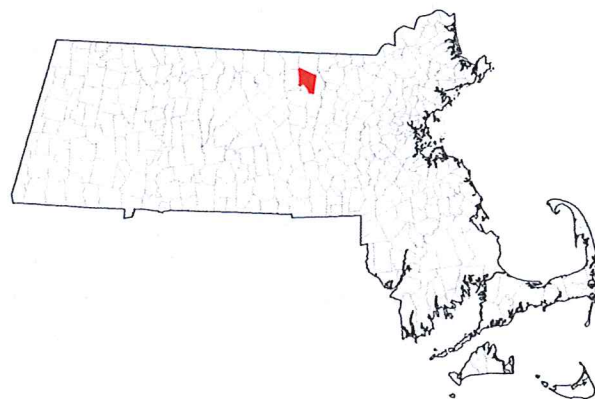
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### **3.A. Regional Context**

Lunenburg is located in northeastern corner of Worcester County, approximately forty-seven miles northwest of Boston and twenty-seven miles north of Worcester. The Town is bordered on the north by Townsend, on the east by Shirley, on the south by Lancaster and Leominster, and on the west by Fitchburg and Ashby.

Lunenburg is 27.69 square miles in area with open water bodies comprising approximately 1.3 square miles. The Town Hall, located in Lunenburg Center is at an elevation of 570 feet above mean sea level. The nearest major artery is Route 2 which is approximately six miles from the Town Center.

The Town is both an agricultural community and a bedroom suburb of Fitchburg, Leominster, Worcester, and to a more limited degree Boston and the Route 128 and I-495 employment centers. Residential development is displacing agricultural, forest, and natural land. Commercial and industrial development is limited and clustered along Route 2A (Massachusetts Avenue), Route 13 (Chase Road) and in the southeastern section at Leominster-Shirley Road and Route 70. Historically, Fitchburg has served as the employment, retail, business and service center for the region, and it still provides those services usually available in a core city.



In the 1980's, 1990's, and again in the current decade, Lunenburg has experienced a change in the intensity and character of development pressures. In 1995, a commercial complex anchored by Wal-Mart increased both the autonomy of Lunenburg as well as the level of traffic entering from surrounding communities. Another major retail facility with several major department stores, specialty stores, and chain restaurants opened in 2006 in Leominster on the Lunenburg town line that has had similar effects.

Major transportation routes have continued to be rebuilt and upgraded facilitating commuting to the Boston, Worcester and southern New Hampshire areas. Route 2 links commuters to I-190/I-290 or I-495 in about fifteen minutes from the Town center.

Housing prices have been historically lower than in towns within the I-495 metro-west region. Although this has placed considerable residential development pressure on Lunenburg and surrounding communities and has thus raised real estate prices, the relative pricing between metro-west and Lunenburg area real estate continues to widen. This is and will continue to exert considerable development pressure on the Town as the market ebbs and surges. Because most of the current development is moderately priced residential housing, the demands upon Town services are likely to increase while the additional tax revenue will fall short of school and other actual service costs.

### **3.B. History of the Community**

Lunenburg's first settler was Samuel Page who came from Groton in 1718 and erected a stockade cabin on the south side of Clark's Hill (now Clark's Hill Conservation Area). The following year the General Court Committee began to survey the land. Land grantees began to build in the Town in 1726 and the Township of Turkey Hills was erected (Lunenburg was not "incorporated") in 1728.

It is said that the name Lunenburg was bestowed on the Town by an English lord traveling through the Town in honor of King George II who held the title Duke of Lüneburg or Lunenburg, Germany. A bronze bell later sent as a gift by the King was sold to pay its freight at the dock due to the inability of the townspeople to pay cost of bringing it from Boston. The Town Pound, a stone walled structure built in 1750 to hold stray farm animals still stands north of the center and an appointed "pound keeper" oversees the structure to the present.

Among the early land grants were the Woburn Farm consisting of 2,000 acres on the west side of Town and the 1,000 acre Dorchester Farm, part of which lies in present day Fitchburg. Harvard College was also granted 250 acres. The original Proprietor's Lots were surveyed and laid out in rectangles one-half mile long by 45 rods wide. Parallel stone walls, one-half mile apart, are still apparent in areas of the Town depicting the borders of the original Proprietor's Lots. Fitchburg, named for John Fitch, an early settler in the region was set off in 1764.

There were saw and gristmills erected along Mulpus Brook beginning in the early 19<sup>th</sup> century. It was noted that flow from many of Lunenburg's brooks was only seasonally sufficient to operate some of the mills. Early local industries included the manufacture of potash and bricks, tanning, bookbinding and printing. Straw hats were manufactured and watches were made for a time.

Mulberry trees were extensively planted in the area of Clarks Hill in a 19<sup>th</sup> century attempt to generate a silk industry in Lunenburg. Somewhat more successful endeavors included cabinet making and the manufacturing of shoes and felt hats, which continued through the 19<sup>th</sup> century.

In 1830, Cyrus Kilburn was commissioned by the General Court to survey the Town and a map showing the early land features and homes present was prepared from his survey in 1833.

In 1848 the Charlestown - Gardner Railroad was completed; a small portion of track passed through Lunenburg. But because the track passed through the extreme southeast of Lunenburg, remote from the Town Center, it did not engender development and progress as in more central locations in other towns. The present day Town Hall, formerly the Third Unitarian Church, was purchased by the Town and moved to its current location in the Center in 1865. The Fitchburg and Leominster Street Railway serviced the Town Center by electric car from 1901 through 1925 with track up Leominster Road, Massachusetts Ave (Rte. 2A), and Main Street.

Persons of regional or national note include: Botanist/geneticist Luther Burbank who began his work with potatoes in Lunenburg before moving to Lancaster and California, Robert Treat Paine, a signer of the Declaration of Independence, Luther S. Cushing, author of Cushing's Manual of Parliamentary Law, and Governor George S. Boutwell.

The Massachusetts Historical Commission has only a single record of an Archaic Period stone axe which lacks good locality data (Lake Shirley area) for Lunenburg. Due to the Town's historic character and general physiography, however, many undiscovered sites of historic and prehistoric significance are likely found in Lunenburg. Cellar holes and farm lots are located throughout the remaining woodlands. Riparian areas that were classically used as encampment areas by Archaic and Woodland period indigenous peoples also remain to be documented and evaluated.

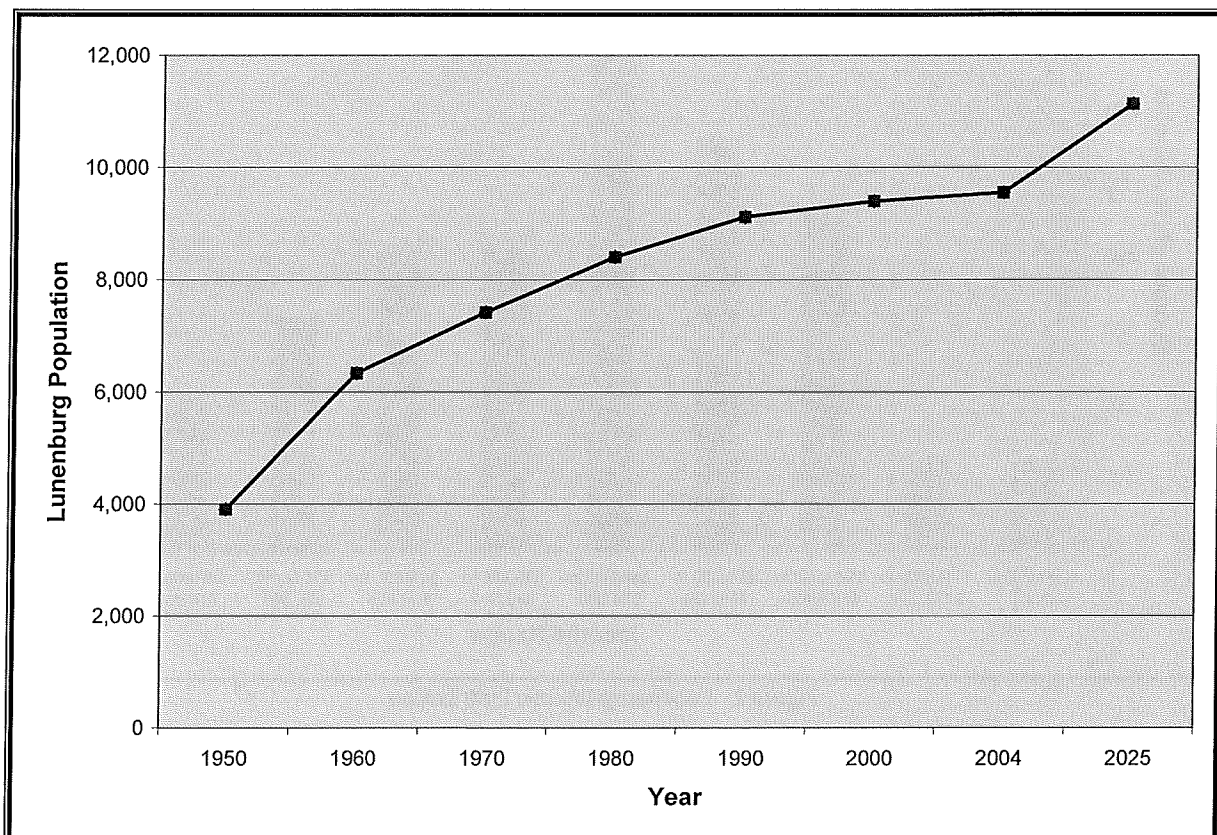
### **3.C. Population Characteristics**



The town of Lunenburg has experienced steady yet moderate population growth due in part to growth in infrastructure, especially transportation routes such as I-90, I-190, I-290, I-495, I-95, and Route 128 and Route 2. This population growth is similar to surrounding communities. Lunenburg's historical population, along with EEA projections for future growth is included below in Table 1 and is depicted in Figure 1.

**TABLE 1: Established and Projected Population Changes**

Year	Population	Increase in Population from Previous Decade	Annual Percentage Change
1950	3,906	77.9%	
1960	6,334	62.1%	10%
1970	7,419	17.1%	3.1%
1980	8,405	13.3%	2.4%
1990	9,117	8.5%	1.5%
2000	9,401	3.1%	0.5%
2004	9,554	1.6%	0.2%
2025	11,133	-	-
Build out	22,318	-	-



**Figure 1: Lunenburg Population, Historic and Projected**

The 2000 US Census concluded in Lunenburg there were 9,401 people, 3,555 households, and 2,668 families residing in the town. The population density was 355.8/mi<sup>2</sup>. There were 3,668 housing units at an average density of 138.8/mi<sup>2</sup>. Of the 3,555 households, 34.9 percent had children under the age of 18 living with them, 63.6 percent were married couples living together, 8.7 percent had a female householder with no husband present, and 24.5 percent were non-families. The average household size was 2.66 while the

average family size was 3.08.

The median income for a household in the Town was \$56,812. The median income for a family was \$63,981. The per capita income in the Town was \$26,986. About 3.3 percent of families and 4.1 percent of the population were below the poverty line, including 3.7 percent of those under age 18 and 1.4 percent of those ages 65 or over.

Lunenburg's household income distribution, as reported in the 2000 U.S. Census is presented in Table 2-6 and graphically depicted in Figure 2. The median household income for 2000 was \$56,812. The median age of persons living in Lunenburg according to the 1990 census data was 35.7 years (see Table 2). The median age in 1970 and 1980 were 29.7 and 31.7 years, respectively. Median income in 1990 was \$43,199 at 117% of the state average. The per capita income was reported as \$19,166 at 111% of the state average. There were 2.8 persons per household in 1990 down from 3.0/household in 1980. In 1990, Lunenburg was 98% Caucasian, 1% Hispanic and less than 1% Black.

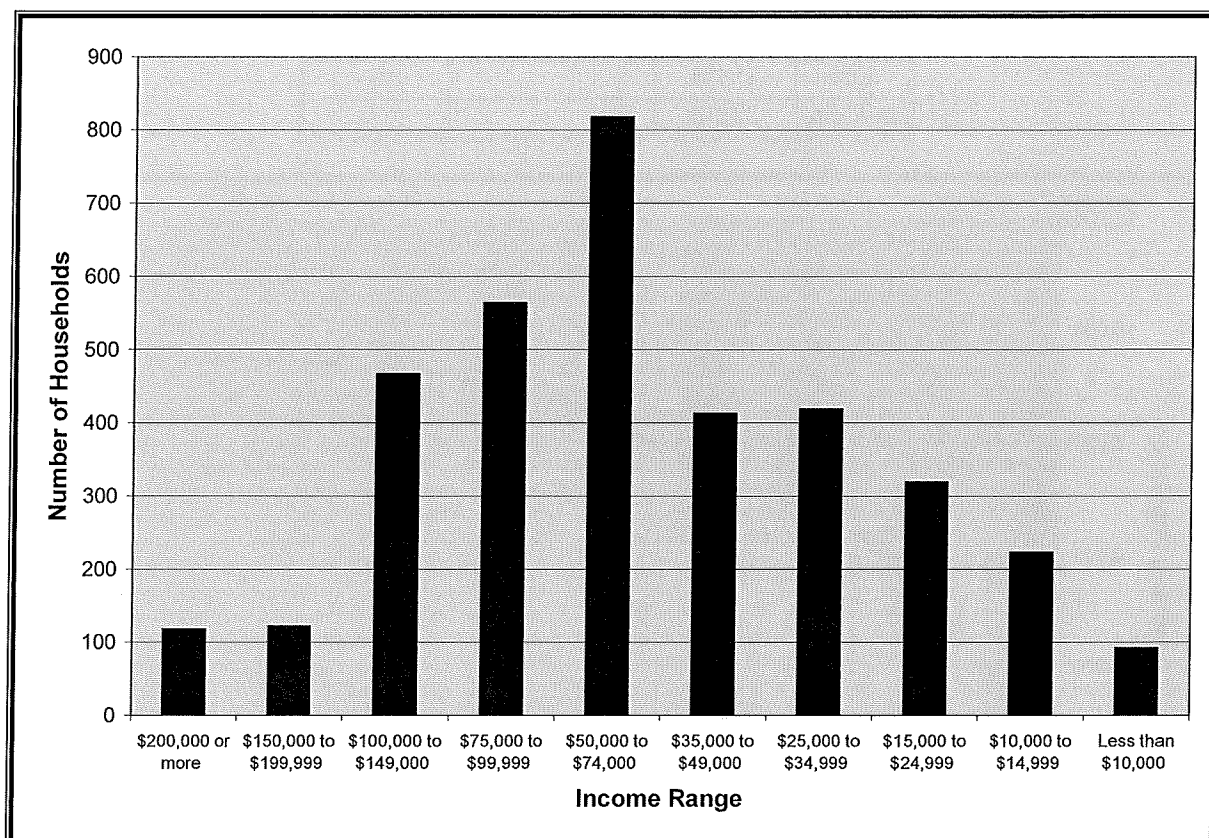


Figure 2: Lunenburg Income Distribution

**Table 2: Age Distribution, 1990 and 2000**

Age Range	1990		2000	
	Population	Percent of Population	Population	Percent of Population
Under 10 years	1275	14.0	1226	13
10 to 14 years	649	7.1	771	8.2
15 to 19 years	602	6.6	634	6.7
20 to 24 years	525	5.8	320	3.4
25 to 34 years	1382	15.2	1004	10.7
35 to 44 years	1646	18.0	1793	19.1
45 to 54 years	1138	12.4	1629	17.3
55 to 59 years	433	4.7	519	5.5
60 to 64 years	397	4.4	376	4
65 to 74 years	686	7.5	635	6.8
75 to 84 years	313	3.4	387	4.1
84 years and older	71	0.8	107	1.1
Total Population	9117		9401	
Median age (years)	39.4			

The trend toward smaller households and an aging population indicates that the Town should plan to provide more opportunities for recreation that appeal to middle aged and senior citizens. Said recreation opportunities would include more passive recreation. One significant source of passive recreation is provided by preservation of open space for conservation.

**TABLE 3: LABOR FORCE, EMPLOYMENT AND UNEMPLOYMENT IN LUNENBURG**

Year	Labor Force	Employed	Unemployed	Unemployment Rate
2007	5,325	5,062	263	4.9
2006	5,356	5,075	281	5.2
2005	5,320	5,047	273	5.1
2004	5,410	5,097	313	5.8
2003	5,422	5,087	335	6.2
2002	5,397	5,089	308	5.7
2001	5,278	5,092	186	3.5
2000	5,233	5,089	144	2.8
1999	5,131	4,955	176	3.4
1998	5,092	4,937	155	3
1997	5,224	5,007	217	4.2
1996	5,113	4,877	236	4.6
1995	5,120	4,861	259	5.1
1994	5,297	5,004	293	5.5
1993	5,288	4,923	365	6.9
1992	5,176	4,797	379	7.3
1991	5,145	4,702	443	8.6
1990	5,109	4,815	294	5.8

### **3.D. Growth and Development Patterns**

#### **3.D.1 Patterns and Trends**

Historically, Lunenburg grew from a strictly agricultural base centered around Fitchburg. As the population of the Town and region has increased, a trend from rural to semi-rural character developed. Although the residential development boom of the 1980's represented the true turning point from rural/agricultural to semi-rural/bedroom community, the Town still maintains a low-density, open feel. Much of the Town is covered by farmland, open and undeveloped land, providing scenic vistas and imparting upon the Town an open charm suggestive of its semi-rural character. The attractiveness of these vistas has, however, seen some of them lost to private home site development in recent years.

Lunenburg has approximately fifteen hundred acres of agricultural land. Scattered throughout the Town are low density residential use properties, although there are a few large scale high density townhouse developments. Concentrations of residential uses occur in the Town Center, the Whalom area, and along Route 2A.

Although housing in Lunenburg is predominantly conventional single family, several planned, proposed or built residential communities consist of condominium units. The average assessed value of single family homes in Lunenburg is \$308,840 with total assessed values of \$1,048,511,600.

**Table 4: Fiscal Year 2008 Tax Classification**

<b>Tax Classification</b>	<b>Assessed Values</b>	<b>Tax Levy</b>	<b>Tax Rate</b>
<b>Residential</b>	1,217,975,700	14,895,843	12.23
<b>Commercial</b>	64,418,400	787,837	12.23
<b>Industrial</b>	21,025,300	257,139	12.23
<b>Personal Property</b>	19,252,440	235,457	12.23
<b>Total</b>	<b>1,322,671,840</b>	<b>16,176,276</b>	

Building activity is on the decline after a marked increase in the late 1990's and earlier part of this decade. Figure 3 shows the downward trend over the last several years caused by the sub-prime mortgage debacle and credit crisis combined with a market correction of the "housing bubble" those issues created. As the housing market always ebb and surge, it can be anticipated the housing market will rebound and this downward trend will reverse.

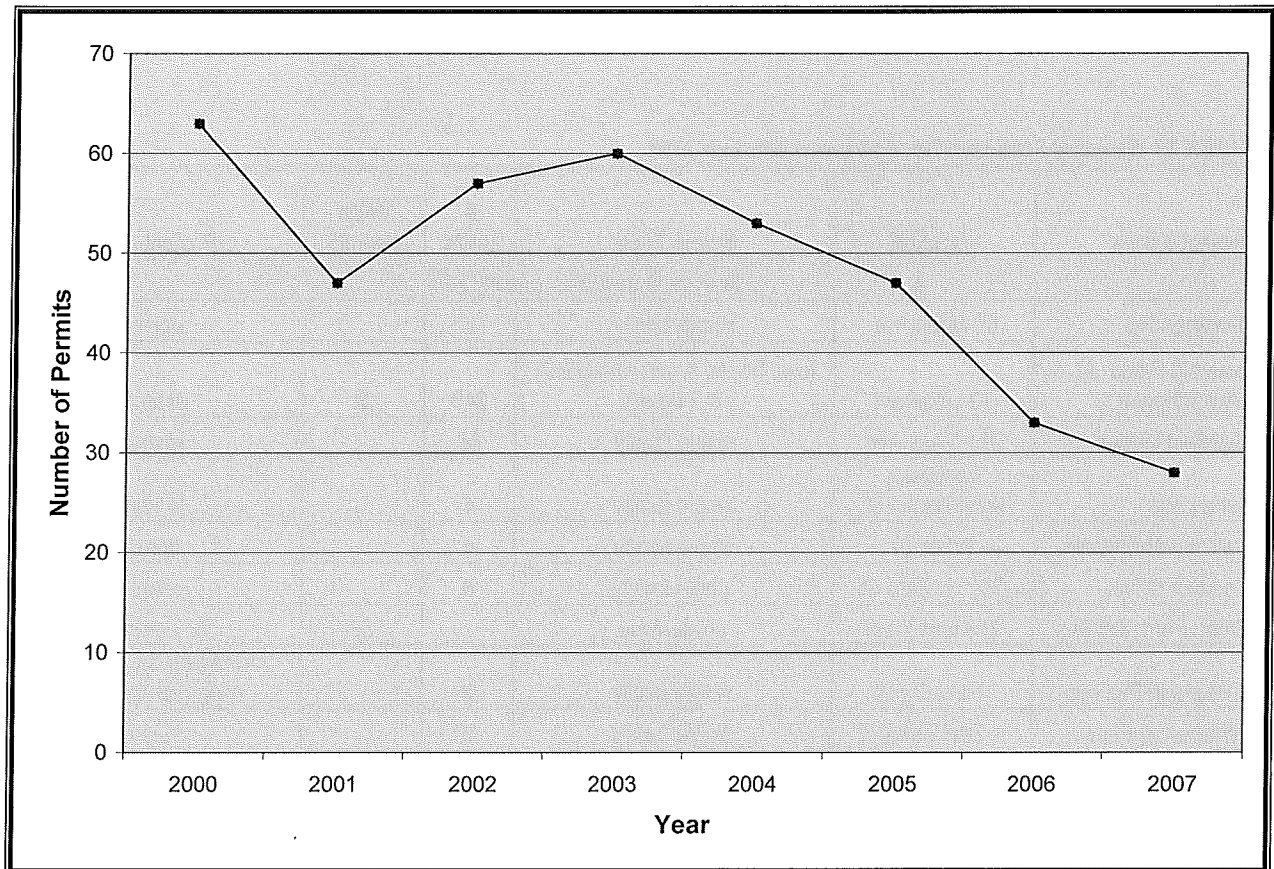


Figure 3: Residential Building Permits Issued Per Year

TABLE 5: New and Proposed Developments through 2006

Project Name	Location	Home Type	# Units	Units over 55	Project Status
<b>Standard Subdivisions</b>					
Benjamin Hill	69 Mass Ave	single family	2		dormant
Emerald Place At Lake Whalom	10 Lakefront	town house & garden-style (1 & 2 bdrm)	240	38	in review
Highfield Village	361 Mass Ave	single family	66		in review
Lena Lane	Lancaster Ave/Gibson St	single family	4		in review
Oak Haven Estates	Arbor St	single family	6		dormant
Sequoia Drive	341 Howard St	single family	8		complete
Stone Farm Estates	748 Mass Ave	condo-type		58	in construction
Villages at Flat Hill	Flat Hill Rd	single family	45		structures completed/road mitigation incomplete
Whispering Pines	Beal Street	single family	19		in review
White Tail Crossing	209 & 331 Burrage St	single family	16		in review
Whites Woods, Ph. 1	Mass Ave & White St	single family	18		complete
Whites Woods, Ph 2	Mass Ave & White St	condo-type		10	complete
Whites Woods, Ph 3	Mass Ave & White St	condo-type		18	in construction
<b>40B Projects</b>					
Lunenburg Estates	1229 Mass Ave	town houses	64		Approved (construction period not known)
Hollis Hills	Hollis Rd & West St	condo-type (3brm)	146		Proposed
Lunenburg Village	250 Whalom Rd.	condo-type (3brm)	120		Proposed
<b>40R Projects</b>					
Tri Town Landing	Youngs Rd	apartments 10% , 3 bdrm 70% 2 bdrm, 20% 1 bdrm	204		proposed

### 3.D.2 Non-residential (Commercial & Industrial Properties)

The non-residential uses in Town, exclusive of agriculture, are limited but expanding in scope. Sand and gravel, and stone quarrying occur primarily in the southeast area of Town. The commercial and retail areas of Route 2A and Route 13 in the west and west-central part of Town are expanding in response to the regional economy and growing regional population base. Major industrial uses are confined to the south/southeast area of Town. Figure 4 shows the land use changes between 1971 and 1999.

The Lunenburg Assessor's office reports the commercial and industrial properties are valued at approximately \$78 million, and have been classified according to the Commonwealth's Department of Revenue Property Type Classification codes, June 2009. Approximately one-third of these properties are

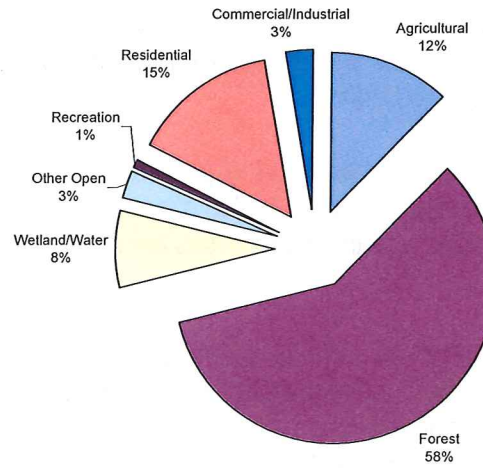
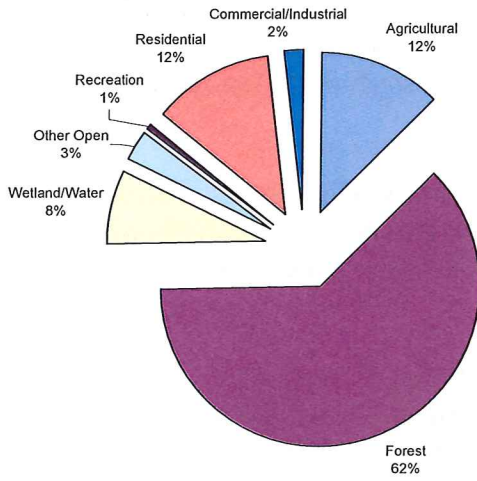
Code 32, Retail Trade. Businesses such as shopping centers/malls, small retail establishments (under 10,000 square feet), and restaurants, are the single largest group of commercial/industrial establishments in Lunenburg. There are approximately 30 businesses of this type, valued at \$26 million.. Almost all are located in the Massachusetts Avenue/Chase Road/Summer Street/Electric Avenue corner of town, nearest to the commercial centers in the neighboring town of Fitchburg, to the south-west. The zoning in this area is classified as Commercial District.

The second largest commercial/industrial property type is code 33, motor vehicle trades. This group comprises approximately 15% of the value base, at \$12 million, and also represents approximately 30 businesses. The majority of these properties are located in the same general area as the retail trade businesses.

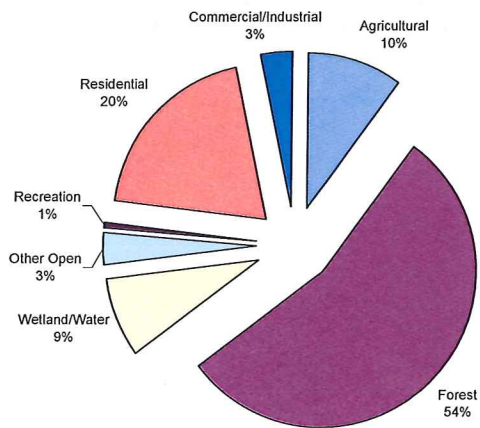
Two other groups are about equal in valuation, code 40 (manufacturing) and code 41 (mining/quarrying). Both are located in the southern section of town, at Pioneer Park and the Leominster-Shirley road area. Both sectors, each valued at approximately 9 million and 11% of the total valuation, are more concentrated than the retail trade and motor vehicle sectors. There are 10 manufacturing properties, and 5 quarry properties. The zoning in this area is classified as Office Park and Industrial District.

Together, these 4 sectors account for 70% of the valuation. The remaining 30% is composed of much smaller types of businesses, ranging from office buildings to warehouses. See Appendix 5 for the detailed analysis.

Land use 1971



Land Use 1985



Land Use: 1999

Figure 4: Land Use Changes



### 3.D.3 Infrastructure

Lunenburg is bisected by Route 2A (Massachusetts Ave.) that, prior to the construction of Route 2, was the principal thoroughfare through the region. Route 2 is the principal artery providing access for commuters to the interstate highway system and points in Worcester and Boston.

Six miles of state roads cross Lunenburg: Route 2A (east-west) and Route 13 (north-south). These provide linkages to larger roadways and serve as commuter corridors. With the development of Lunenburg Crossing, these roads also serve as feeder roads for retail shoppers from within Town and adjacent communities (e.g. Leominster, Townsend, Fitchburg, and Ashby).

Eighty-five miles of accepted town roads are located throughout town, varying from paved, well-traveled streets to unpaved, rolling dirt roads in the outlying regions. New commuter rail stations in Fitchburg and north Leominster as well as another smaller stop in Shirley link Lunenburg residents with employment and retail services in municipalities as far west as Gardner and as far east as Boston.

The regional transportation system make it possible for people seeking relatively low housing prices to locate in Lunenburg and commute to the employment centers along I-495 and Route 128, and in the cities of Worcester and Boston. Thus, the highway and commuter rail system contributed to the growth pressure facing the Town in recent decades.

The Montachusett Area Regional Transport (MART) services Lunenburg Crossing from Fitchburg allowing patrons access to this commercial center without the use of automobiles. As additional retailers close in response to Wal-Mart and Hannaford, this commuter link will become more critical to the urban residents of Fitchburg and residents of west Lunenburg.

### 3.D.4 Water

The Lunenburg Water District, a quasi-public water supply agency separate from Town government, provides service to approximately 5,265 people, or 55 percent of Lunenburg's population. The District has six wells, five of which are in the Catacunamaug Brook sub-basin and one in the Mulpus Brook sub-basin. Only four of the five wells in the Catacunamaug Brook sub-basin are currently active. These active wells are located on Lancaster Avenue and are identified as: Well 1, Well 2, Well 4, and Well 5. The inactive Well 3 was last used in 1983. The one well in the Mulpus Brook sub-basin is located on Hickory Hills Lake and is identified as either the Hickory Hills Well or Well 6. This well is active and used on occasion during peak periods. The Hickory Hills Well is not used regularly because continuous use results in complaints of "dirty" water from consumers. Lunenburg Water district usage and capacity is shown in Figure 5 below.

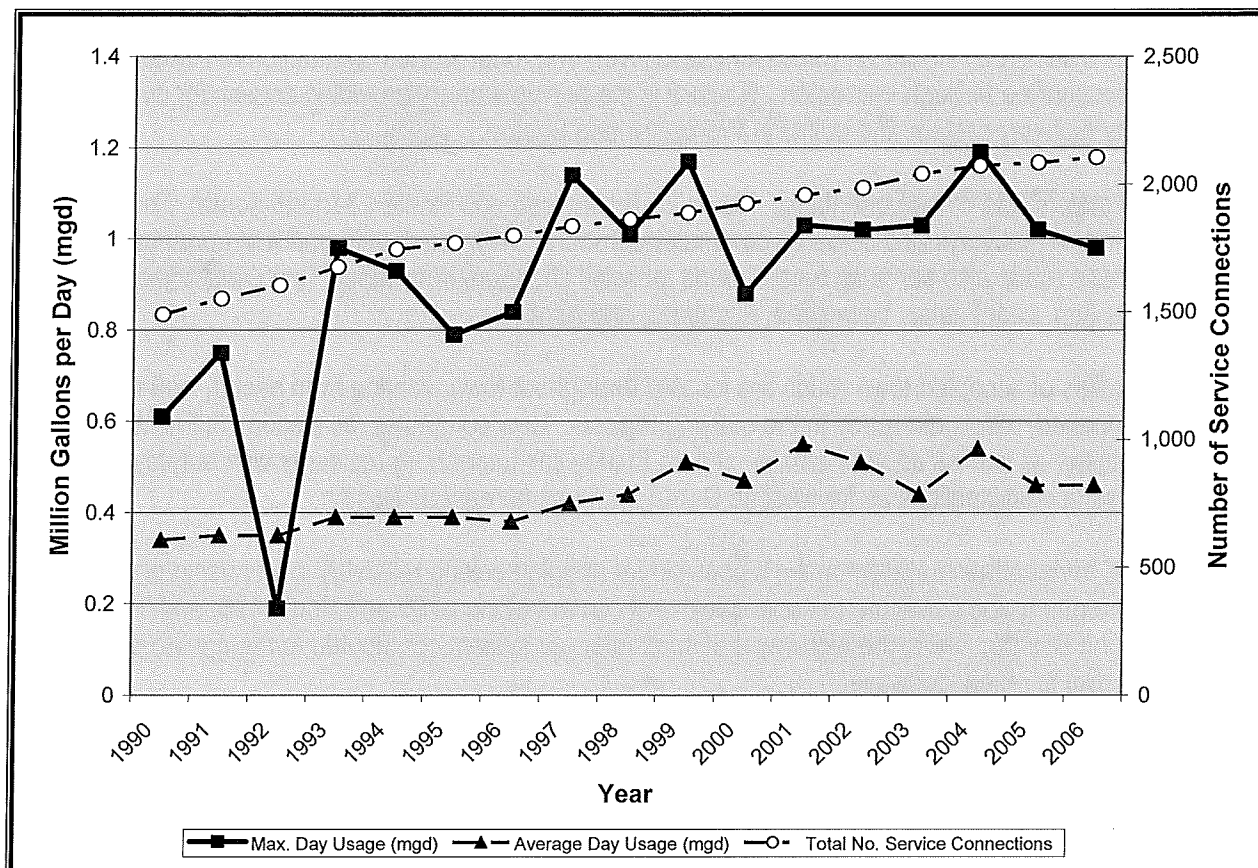


Figure 5: Water Usage and Capacity

The Town has adopted a water supply protection bylaw as part of its zoning bylaws. The bylaw serves to protect not only the well sites and potential well sites, but also the aquifer in which they are located, and the drainage area in which the aquifer is located. The protective bylaw delineates three zones within the Water Supply Protection District. These zones coincide with the aquifer boundaries defined in 310 CMR 22.00 – Massachusetts Drinking Water Regulations. In addition, the DEP has approved Zone II wellhead protection areas associated with the Town's primary well sites.

### 3.D.5 Sewer

For many years, the primary method of wastewater disposal in the town of Lunenburg was through individual on-site wastewater disposal systems. These systems serviced approximately 98 percent of Lunenburg's residential, commercial, and public buildings. The remaining properties were serviced by two nearly 75-year-old gravity sewer systems located in the Whalom Lake and Summer Street areas that conveyed flow to Leominster and Fitchburg respectively. The City of Leominster constructed approximately one mile of sewer around 1930. The approximately 75-year-old Summer Street sewer, which flows to Fitchburg, was discovered in the late 1990s. It serves a number of properties in the southwest corner of Lunenburg, which until that point were not known to be connected to the Fitchburg sewer system. After the discovery of this line, the properties served have been billed by the Town of Lunenburg for sewer service.

In response to environmental and health concerns over failing individual systems as well as public interest in connecting to the existing sewers, the Town completed a Facilities Plan in 1999. The Plan recommended a three phase construction plan for a sewer system expansion with connections to Fitchburg through Summer Street and Massachusetts Avenue (Route 2A), and creating a new connection to Leominster on Graham Street. The Town entered into an Intermunicipal Agreement (IMA) with Fitchburg in 1994 allowing Lunenburg to discharge up to 500,000 gallons per day (average monthly flow) of wastewater to the

Fitchburg sewer system. The Town entered into a similar agreement with Leominster in 1999.

The most critical areas of need, as determined by the 1999 Facilities Plan, were addressed in Phase I. Upon recent completion of Phase I sewer construction, Lunenburg postponed Phase II construction pending further investigation into the areas of need. The current Lunenburg sewer collection system discharges approximately 37,000 gpd to Fitchburg and approximately 56,000 gpd to Leominster. Approximately 7.1 percent (336 parcels) of Lunenburg's 4,700 parcels of land are connected to the sewer system, while an additional 9.6 percent (451 parcels) have been assessed betterments, and are therefore entitled to connect to the existing sewer system.

There is currently no planned sewer expansion in Lunenburg. The construction of the Phase II sewers, as recommended in the 1999 Facilities Plan, has been postponed until the current Comprehensive Wastewater Treatment Plan is completed. The Town is currently investigating the feasibility of not allowing any further extension of the existing sewer network until completion of the current study.

Two areas in town are serviced by small packaged wastewater treatment facilities. One facility is located at Woodlands Village and the other is located at the Village at Flat Hill. The Woodlands Village facility is located on the west side of Hickory Hills Lake on Royal Fern Drive. The privately owned condominium complex was previously called Lakeshore Village. The Village at Flat Hill facility is located at the property formerly known as the Sweeney Property between Arbor Street and Flat Hill Road.

Although improved waste water treatment is very much needed at most if not all municipal facilities, the routing of sewer lines through the community may have profound effects on the character of town. Many sites in Town are marginally or not developable due to poor soils, shallow ledge and high groundwater. Sewer service will allow many such sites to be developed. This has the potential to not only impact the aesthetic character and quality of life in Town, but also to subtly and incrementally impact natural resources such as wetlands, woodlands, open space and wildlife habitat.

#### 3.D.6 Build out Analysis

The EOEA prepared a series of estimates to determine the future build out of Massachusetts cities and towns. The community data profiles prepared by EOEA and based on statistics that analyze available land in each zoning district. Projections were made for additional housing units and non-residential land development based on available land. The EOEA Build out Analysis for Lunenburg was completed in 2001, and utilized the 2000 U.S. Census. The Demographic projections are included in Table 6, and the build out impacts are included in Table 7. Although the build out projections and impacts are based on available land and its zoning, this is not necessarily desirable or considered realistic due to available resources and restrictions. Build out impacts are considered a worst-case scenario. These projections are based on the EOEA study.

Table 6: Lunenburg Demographic Projections

Timeframe	Residents	Residential Units	Water Use (gal./day)
1990 Census	9,117	3,252	-
2000 Census	9,401	3,668	515,337
2025 Projection (EOEA)	11,133	-	-
Full Build out (EOEA)	22,318	8,713	2,566,783

Table 7: Build out Impacts			
	Additional Residents	12,917	
	Additional Residential Units	5,045	
	Additional Developable Land Area (sq ft)	289,418,383	
	Additional Developable Land Area (acres)	6,644	
	Additional Commercial/Industrial Buildable Floor Area (sq ft)	14,435,585	
	Additional Water Demand at Build out (gallons/day)	2,051,446	
	<i>Residential</i>	968,777	
	<i>Commercial and Industrial</i>	1,082,669	
	Additional Solid Waste (tons/yr)	5,989	
	<i>Non-Recyclable</i>	4,712	
	<i>Recyclable</i>	1,277	
	Additional Roadway at Build out (miles)	49	

## SECTION 4: *Environmental Inventory & Analysis*

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### **4.A. Geology, Soils and Topography.**

#### 4.A.1 Topography

The topography of Lunenburg is predominantly hilly terrain, with primarily gradual elevation changes. However, steep slopes are found in the northeast and central portions of Town. The majority of the Town slopes west to east, with elevations ranging from approximately 700 feet above sea level in the northwest portion of the Town to less than 330 feet above sea level in the southeastern portion of the Town in the area of Lake Shirley. This topography is a result of the glacial action that spread over much of North America several times in the geologic past. The rolling hills, kettles, kames, eskers, moraines, outwash plain, ponds and wet areas are remnants of the retreat of the last glacial ice flow that began approximately ten to eleven thousand years ago. Whalom Pond and Massapoag Pond are naturally-occurring, glacially-carved depressions that filled with water.

#### 4.A.2 Surficial Geology

The surficial geology of the Town is predominantly sand and gravel, and till or bedrock. The Town's surficial geology is somewhat divided between east and west. The western portion of the Town is predominantly till or bedrock with the exception of the following areas consisting of sand and gravel: Pearl Hill Brook/Paige Lake area that extends along the western boundary; an isolated pocket north of Northfield Road at the intersection of Chase Road; and, areas in the vicinity of Hickory Hills Lake. The sand and gravel deposits, within the eastern portion of the Town, tend to coincide with the aquifers and lakes with a depth to 50 feet. There is a sand and gravel band that extends from the north central area of Hickory Hills through the east central portion of Town to the Lake Shirley southeastern portion of the Town. There are some isolated floodplain alluvium pockets in the eastern half of the Town and a small band in the southwest corner of the Town that extends to a depth from 50 to 100 feet.

#### 4.A.3 Soils

The Natural Resources Conservation Service (NRCS) published the Soil Survey of Worcester County, Massachusetts: Northern Part in 1985. There are four major soil types found in Lunenburg: Paxton-Woodbridge-Canton, Chatfield Hollis, Hinckley-Merrimac Windsor, and Urban.

4.A.3.1 Paxton-Woodbridge-Canton: This soil group is formed in glacial till and covers a major portion of the Town. It runs in a band from the northwest-central boundary to the south-central portion of the Town. It is also found in a band from the northeastern corner and along the eastern-central boundary of the Town. Paxton soils are well drained, gently sloping to steep, and have slow to very slow permeability. Woodbridge soils are moderately well drained, nearly level to sloping, with slow to very slow permeability, and is often found on the top of hills and drumlins. Canton soils are well drained, gently sloping to steep and have moderately-rapid to rapid permeability. The minor soils are poorly drained Ridgebury and very poorly drained Whitman and Swansea, which are found in depressions and low-lying areas.

4.A.3.2 Chatfield-Hollis: This soil group is formed in glacial till. It is found in two smaller isolated areas north and east of Hickory Hills Lake and north of Lake Shirley. The soils in both the Chatfield and Hollis groups are moderate to moderately-rapid permeability. Chatfield is found on the lower slopes of ridges and Hollis soils are found on the upper slopes. The minor soils are well drained Canton and very poorly drained Swansea, Freetown, and Whitman soils. The minor Canton soils are found on the lower

slopes, and other minor soils are found in depressions or low-lying areas.

**4.A.3.3 *Hinckley-Merrimac-Windsor*:** The Hinckley-Merrimac-Windsor soil type is found along the western boundary of the Town and runs in a band from the north-central boundary to the southeastern portion of the Town. The Hinckley soils are generally deep and level, have rapid permeability in the subsoil and very-rapid permeability in the substratum. Hinckley soils typically have a loamy surface layer underlain by stratified sand and gravel. Merrimac soils are nearly level to moderately steep, are somewhat excessively drained, and have moderately rapid or rapid permeability. Typically, the Merrimac soils consist of two feet of loamy material over sand and gravel. Windsor soils are generally sandy, excessively drained and are in the lower areas of the outwash plains; they range from nearly level to moderately steep; and, they have rapid to very rapid permeability.

**4.A.3.4 *Urban*:** Soil texture and other soil properties vary significantly within short distances on urban landscapes. This variation is caused by the movement and mixing of soil materials during construction activities or changes in any of the soil-forming factors. The combinations of different textures may improve or limit the soil for a specific use. Table 8 illustrates the three main agriculturally significant soils groupings in the Town. The Hinckley-Merrimac-Windsor soils cover much of the Town. According to the Soil Conservation Service Soil Survey (1), the soils formed in water-sorted deposits of glacial outwash. These deposits are generally more porous than glacial till and sometimes provide water supply aquifers. Hinckley soils are generally deep and level and have rapid to very rapid permeability. Merrimac soils are level to moderately steep and have moderate to rapid permeability. Windsor soils are generally sandy, range from nearly level to moderately steep, and have rapid to very rapid permeability.

**Table 8: Agriculturally-Significant Soils**

High-Quality Agricultural Soils	Acres	Percent of Total
Prime Farmland	3,323	18.7%
Farmland of Statewide Importance	3,124	17.6%
Farmland of Unique Importance	889	5.0%

The topographic, geologic and soil characteristics of Lunenburg are not conducive to dense urban development without considerable expenditure for infrastructure. The rolling topography does not provide for the easy development of the roads and infrastructure required to serve an urban development pattern. Furthermore, topography does not provide much level land for the development of large industrial plants or commercial structures. The poor drainage and low permeability characteristics of much of the soils in Town do not provide for siting of high density residential structures.

The geologic features do provide some development opportunities. The glacial topography is conducive to sand and gravel mining and there is a large such operation located in the southern portion of the Town by the Leominster and Lancaster Town lines. Metamorphic rock deposits consisting of shale and phyllite also provide value for use in light-weight aggregate and road surfacing production. The supply of materials present in the one active quarry in Town appears to be sustainable for the foreseeable future. In addition, the soils are suitable for agriculture, and a portion of the land in Town, although decreasing, are devoted to farming.

The topographical features provide for some recreation opportunities. The numerous ponds in the Town provide for various recreational activities, including boating, swimming, fishing, hunting, ice skating, and nature study. The rolling topography provides for hiking, sledding, and skiing, while the more level areas in Town provide for golfing, baseball, and other field games. Wetland areas located throughout Town provide

value for wildlife habitat, watershed storage, flood control, and well as recreational activities such as trapping, hunting, and fishing.

#### **4. B. Landscape Character**

Although located in an urban area, the Town of Lunenburg maintains a small town, semi-rural character. The green rolling hills, ponds, wetlands, and vegetated areas contribute to the pastoral sense that one feels driving through much of the Town. The undeveloped and semi-rural ambiance of the Town is enhanced by the large tracts of land devoted to State and Town forests conservation areas and land devoted to the raising of animals. Narrow, winding, and sometimes unpaved, roads also contribute to the Town's semi-rural character.

The rolling topography provides the Town with scenic views across hills and valleys, and over farm and pasture land. This is especially true along Lancaster Avenue as one travels to and from the Town center to Route 2. The scenic vistas along this stretch of roadways one views the landscape from the crests of hills is especially beautiful in the fall. Views across the many ponds and wetland areas also impart a scenic quality to the natural landscape.

The man-made landscape is also important to the Town. The village type development gives the Town a New England appearance and historic structures, e.g., Town Hall, instill a sense of permanency and stability to the built environment.

As noted above, the landscape features of the Town provide an opportunity for recreation. The forests provide areas for hiking, cross country skiing, nature study, and hunting. The lakes and wetlands provide boating, swimming, ice skating, and nature study recreation opportunities.

Development has affected the character of the Town. The Town has witnessed a significant change in the intensity and character of development pressure. This development pressure was historically fostered by several outside forces. The Fitchburg area, once dependent upon employment in slow growth industries diversified to more rapid growth industries. Major transportation routes to the area were improved, making it easier for people to live in Lunenburg and commute to work in the major employment centers of eastern Massachusetts and southern New Hampshire. When housing prices first began their rapid rise in the metropolitan Boston area, housing prices in Lunenburg increased at a lower rate, making the Town attractive to homebuyers seeking quality housing in a small town setting. Recently, land values in towns located east of Lunenburg have increased significantly. This trend in land values has made development opportunities in Town more attractive to real estate developers. As a result, the aging population controlling the majority of Lunenburg's remaining privately-held open space has felt increasing pressure to develop their land.

The result of the changes outside of Lunenburg has continued to be an increase in residential development and development proposals in Lunenburg. Residential development has remained steady as large scale developments follow one after another. Commercial development has remained steady while industrial development pressure has increased slightly as large areas of undeveloped land have been cleared for development. Truck traffic along the towns back roads has increased, and consequently, noise levels in rural areas have increased.

In general, the development activity has increased slightly as the real estate market has become more active with the lowest mortgage rates since the 1970's. Development activity has left its mark on the Town. There is less vacant and undeveloped land in the community, commercial development has increased along major arteries, i.e., Route 2A, and traffic congestion has increased. Two dairy farms have ceased operations

during the past 10 years. Due to disruption of wildlife habitat, there has been more conflict between wild animals and residents of the Town. Domestic pets have harassed wildlife; free running dogs have crippled and killed white tail deer, including pregnant deer. Vehicle collisions with deer continue to increase as habitat is encroached upon forcing deer to move between isolated tracts of land to feed and rest. Loss of pets to coyotes has also increased at a rate consistent with other towns in Massachusetts as this predator becomes more accustomed to the suburban environment.

The natural and built landscape has suffered as well. Development has occurred in prime locations, affecting some of the scenic views. Residential development has been built on former farm land on Leominster Road, impacting upon the view along the road which formerly consisted of contiguous farm land leading to the top of Cherry Hill. Commercial development and associated signage along Route 2A has increased. The Town's population has increased, resulting in an increase in the demand for recreational activities. If development were to continue at the pace of the past few years, the Town would see a significant loss of green space and a change from its small town character to a more suburban character.

The increase in population associated with development will alter the demand for recreation, possibly requiring the acquisition of more land for recreation use and the construction of more recreation facilities. Active and inactive farmland areas in Town represent the most vulnerable land areas susceptible to development. The extension of sewer service from the Whalom District will likely place significant pressure on land owners to develop open space along Prospect Street and Leominster Road, and connecting roadways.

#### **4.C. Water Resources**

##### **4.C.1 Watersheds and Sub-basins**

The town of Lunenburg lies within the Nashua River Watershed Basin, which serves 31 watershed communities in north central Massachusetts and southern New Hampshire. The watershed of the Nashua River is a basin in which all precipitation that falls geographically within the basin ultimately flows down gradient to the river. The Nashua's watershed encompasses 538 square miles. The majority of the Town lies within three sub-basins: Catacunamaug Brook, Mulpus Brook, and Falulah/Baker Brook.

4.C.1.1 Catacunamaug Brook Sub-basin: The Catacunamaug Brook sub-basin extends to state highway Route 2A as much of the northern boundary, state highway Route 2 along the southern boundary, and state highway Route 13 along the western boundary defined by a ridgeline. The Catacunamaug sub-basin extends into the town of Leominster to the southwest, the town of Lancaster to the south, and the town of Shirley to the east. More than half of Lunenburg is located within the Catacunamaug sub-basin.

The Catacunamaug sub-basin lies within the Southern New England Coastal Plains and Hills ecoregion, which is geologically comprised of glacial till and outwash deposits. This sub-basin drains to the southeast into the mainstream of the Nashua River. The stream flow of Catacunamaug Brook, as well as contributory stream flows, has significant seasonal changes as expected in the northeast.

The land use for this sub-basin is primarily forest or wetland. There are some small portions of residential and agricultural, open-protected or limited protection-land. Approximately 10 percent is classified as a total impervious area, which indicates that issues of compromised stormwater and other non-point sources of contaminants (pesticides, fertilizers, oils, asphalt, pet wastes, salt, sediment, human litter and other debris) may exist or impact this sub-basin.

The Catacunamaug sub-basin has been recognized as a good source for both water supply and recreation for the Town. The Catacunamaug Brook provides excellent riparian, wildlife and aquatic habitat. Man-made



threats to the brook and related water bodies include: storm drain discharges, road runoff, agricultural practices, and construction activities.

The major water bodies in this sub-basin include the Massapoag Pond, Lake Whalom and Lake Shirley. Massapoag Pond, located in southern Lunenburg, is without significant shoreline development. The Harris Farm APR protects the entire eastern half of Massapoag Pond, and while large wetlands surround the entire western half. Lake Whalom contains non-native plants. Lake Shirley is in a eutrophic state, enriched by nutrient loading that in turn stimulate plant growth and the deplete oxygen in the lake. Lake Shirley is noted for having noxious and non-native plants, and high turbidity.

Numerous minor water bodies are tributaries to the Catacunamaug sub-basin. Dams within this sub-basin are located in Bow Brook and Lake Shirley. No apparent negative impacts from these impoundments are known. The area underlying Lake Shirley is classified as a high-yield aquifer with a medium-yield aquifer abutting and extending along the southeastern Town boundary, into Lancaster.

4.C.1.2 Mulpus Brook Sub-basin: The majority of the Mulpus Brook sub-basin lies within Lunenburg. The sub-basin extends into the town of Shirley on the east, and a small portion extends into the town of Townsend to the north. The state thoroughfares Route 13, Route 2A, and Route 225 travel through the Mulpus sub-basin.

The Mulpus sub-basin lies within the same ecoregion as the Catacunamaug sub-basin, where the geology consists of glacial till and outwash deposits, and drains to the southeast into the mainstream of the Nashua River. Mulpus Brook is impounded behind the Hickory Hills Dam, and forms the Hickory Hills Lake.

The land use for this sub-basin is approximately primarily forest or wetland, with some portions of residential, and agricultural, open-protected or limited protection- land. Approximately 7 percent of the sub-basin is impervious land, which indicates possible storm water and other non-point sources of contaminants. A portion of the Squannassit ACEC lies within this sub-basin, including the Cowdry Nature Center.

In 2000, the Shirley Greenway Committee conducted a shoreline survey of Mulpus Brook in Shirley. Several problems were noted, including a septic discharge situation at a mobile home park and sedimentation build-up at various road crossings. However, the brook was noted as having a good buffer between the brook and development, and having high water quality.

In this sub-basin, the major water body is Hickory Hills Lake. The feeder streams to Mulpus Brook include Beaver Pond Brook, which has its source in a wetland at the western base of Chaplins Hill in the town of Shirley. There is a wetland complex at the confluence of Beaver Pond and Mulpus Brooks at the base of Deacon Hill.

4.C.1.3 Falulah/Baker Brook Sub-basin: The majority of the Falulah/Baker Brook sub-basin lies in the community of Fitchburg, with portions extending north into the communities of Ashby and Ashburnham and to the east into the town of Lunenburg. Approximately one fifth of this sub-basin extends into Lunenburg. Route 31 bisects this sub-basin and Routes 2A and 13 pass through a portion.

The Falulah sub-basin lies within the same ecoregion as the Catacunamaug sub-basin and Mulpus sub-basin, where the geology consists of glacial till and outwash deposits. The Falulah sub-basin begins at higher elevation points in the towns of Ashby and Ashburnham. Considerable watershed supply lands for the city of Fitchburg protect the headwaters. Falulah Brook flows southeasterly through the city of Fitchburg, paralleling the commercial strip of the John Fitch Highway, where it is affected by urban influences before

entering the town of Lunenburg.

The land-use pattern for the Falulah sub-basin is predominantly forest or wetland. The majority of residential development is low density; however, concentrated residential settlements and commercial development along major roads and in subdivisions exist in the city of Fitchburg. Approximately 5 percent of land area is agriculture, open-protected or limited-protected.

Major water bodies in this sub-basin include the Falulah, Fitchburg, Lovell, and Scott Reservoirs; and Greenes, Paige and Putnam's Ponds, which contain noxious and non-native plants. Feeder streams to Falulah Brook include Saima Pond and Greenes Pond. Pearl Hill Brook runs through Paige Pond in the town Lunenburg. Bakers Brook begins at the confluence of Falulah and Pearl Hill Brooks.

#### 4.C.2 Surface Water

Lunenburg has a number of streams, ponds and lakes within its boundaries. Surface waterbodies account for 2.37 of the Town's twenty-nine square miles of total area. Of the four large lakes in Lunenburg, the two largest, Lake Shirley and Hickory Hills Lake are man-made. Lake Shirley, located in the southeastern portion of the Town, covers 366 acres and has an average depth of twenty-eight feet. There is no public access to the water; however, private organizations on its shores utilize the lake for recreation and allow launching of boats for a fee. Water quality tests indicate that the Lake water is suitable for swimming, although water quality has suffered recently, as indicated by high turbidity. The lack of public access to the Lake limits the use of the resource for public recreation purposes.

Hickory Hills Lake is located in north central Lunenburg. The approximately 331 acre Lake is owned and maintained by Hickory Hills Landowners, Inc., and is used for recreation by residents abutting the water. There is no public access to the Hickory Hills Lake. The average and maximum depths of the Lake are ten feet and twenty feet, respectively. The water quality is suitable for swimming. Like Lake Shirley, the lack of public access limits use of the water for public recreation.

The ninety-nine acre Lake Whalom, located in the southwestern portion of Town at the Leominster border is used for recreational purposes including boating and swimming. A public access boat ramp is available in Leominster. The Lunenburg Town Beach provides access to the Lake for Lunenburg residents, the Fitchburg Skin Diver Club frequently uses the Lake for its training programs. The Lake is owned by the Commonwealth and its waters test as acceptable for swimming.

Massapoag Pond is located in south central Lunenburg near the Leominster border. The fifty-six acre pond is man-made and privately owned; there is no public access. The majority of the shoreline is undeveloped agricultural land and vegetated wetland. The water quality has not been tested. The lack of public access limits use of the Pond for public recreation purposes. Public access to Mulpus Brook is provided through the Cowdry Nature Center located on Route 2A.

Numerous streams, ranging from small flows to larger streams draining into wetlands and ponds, flow through and within the Town, e.g. Mulpus, Pearl Hill and Catacunamaug Brooks. These brooks are too small for active recreation. In 1996 the Rivers Protection Act became law, providing additional protection to the town's perennial streams. The regulations generally preclude development within 200 feet of the mean annual high water mark of a perennial stream unless that development will result in no significant impact on the stream and there is no practical and substantially equivalent economic alternative.

The Lunenburg Water District has performed test borings over much of the Town to locate potential sources of groundwater. The tests indicate that the most suitable sites for exploitation are located in an area of deep

stratified drift deposits bounded by Lancaster Avenue, Shirley-Leominster Road, Burrage Street, and Page Street. The District's wells are located in this area and steps have been taken to protect the natural resource for its groundwater potential.

#### 4.C.3 Flood Hazard Areas

The 1981 Federal Emergency Management Agency (FEMA) Flood Insurance Study of the Town of Lunenburg identified flood hazard areas in the Town. The Study indicated that low-lying areas of the Town are subject to periodic flooding from Baker Brook, Pearl Hill Brook, Mulpus Brook, Catacunamaug Brook, Lake Shirley, and Lake Whalom (1). Figure 5 indicates areas of flood hazards, identified as that area within Zone A on the flood insurance rate maps (FIRM) of the Town of Lunenburg prepared by the Federal Emergency Management Agency, June 15, 1982.

The Town has taken steps to minimize encroachment in the floodplain and damage to life and property due to flooding by adopting a Flood Plain District as part of the Zoning Bylaw. The Town has limited uses in the Floodplain District to low intensity, low impact uses, e.g., agriculture, and has prohibited encroachments in the District which would increase flood levels during the one hundred year flood. Outdoor recreational uses, conservation of water, plants and wildlife, and forestry and nursery use are permitted within the Flood Plain District. The Massachusetts Wetlands Protection Act and Lunenburg Wetlands Protection Bylaw also regulate work in the floodplain.

(1) Federal Emergency Management Agency, Flood Insurance Study: Town of Lunenburg, Massachusetts Worcester County; Federal Emergency Management Agency, December 15, 1981, page 4.

#### 4.C.4 Wetlands

The Town has large areas of wetlands. Wetlands are valuable in that they provide natural drainage and flood control, groundwater recharge, natural water purification, wildlife habitat, and recreational opportunities in the form of the enjoyment of nature.

Much of the wetlands in the Town are on land in private ownership and are, therefore, subject to development within the parameters of the Massachusetts Wetlands Protection Act (M.G.L. Chapter 131, Section 40) and its associated regulations (310 CMR 10.00) as well as the Lunenburg Wetland Protection Bylaw. Historically, land developers avoided wetland areas due to the cost of development on such land; however, as the more easily developed land has been built upon and land development engineering practice has advanced, land developers have turned to construction on marginal lands to meet the residential, commercial, and industrial space demand. The Lunenburg Conservation Commission, as part of its authority under the Wetlands Protection Act and the Town of Lunenburg Wetlands Protection Bylaw, reviews development within wetland areas (and associated buffer zones) and issues mitigation measures for work within regulated wetland resource areas. As a result of the Commission's active membership and use of a hired agent, enforcement of the Act and Bylaw has been more consistent. Enforcement of these regulations as well as the review of permit applications and coordination with other departments continues to place an increasing demand on town resources. Violators have been identified and appropriate corrective measures have been taken. Through these measures, coupled with greater authority granted by the passage of the Rivers Protection Act, the Town's wetlands are being offered the highest level of protection in the Town's history. In addition, land acquisition by the Town for open space has ensured that more of the Town's wetlands will be protected.

#### 4.C.5 Aquifer Recharge Areas

The Town of Lunenburg is served by the Lunenburg Water District, an entity created by an act of the Great and General Court in 1939 to be independent of the Town. The Water District covers approximately sixty

percent of the Town and supplies potable water from four groundwater wells located off Lancaster Avenue. The wells have a combined pumping capacity of 1.31 million gallons daily. The District has mapped the well sites, aquifer and recharge areas for the wells. For a detailed illustration of the aquifer and recharge area boundaries, please refer to the "Water Distribution System" map dated 1997 and on file with the Lunenburg Water District.

The Water District's wells are all in the same shallow aquifer, creating the potential for loss of service if the aquifer becomes contaminated or is overpumped. The Town recognizes the critical need to protect its aquifer and has adopted a Water Supply Protection District as part of its Zoning Bylaw. The Bylaw establishes three levels of protective resource areas within the recharge area. The first area, Zone 1, is generally the area within four hundred feet of the well site. Uses within Zone 1 - the Restricted Area - are limited to conservation uses, outdoor recreation, and agriculture. The second area - Zone 2 - is generally the aquifer itself. Uses permitted in Zone 2 include those permitted in Zone 1, low density detached dwellings, and public utilities/facilities. Zone 3, the third area, is the upland area that directly recharges the aquifer. Uses in this zone are not as restrictive as the previous areas; however, pesticide application and runoff are controlled so as to limit the impact on the aquifer. In addition to the permitted uses, a list of uses that are prohibited in the District, and performance standards, are included in the Bylaw. It should be noted that a portion of the aquifer recharge area (Zone 3) extends into Leominster, and is beyond the control of the Town of Lunenburg.

The aquifer covers a large portion of the Town, and, therefore, affects development in the community. Recreation use within the resource areas are also affected by the restrictions in the Water Supply Protection District; however, such strong regulations are required in order to assure a safe drinking water supply for the Town's residents.

#### **4.D. Vegetation**

##### **4.D.1 Forest Land**

Forest land is a valuable resource. In general, forested land provides the following attributes to any community:

- Wildlife habitat. Forested land provides living space and feed for a variety of animals including invertebrates, squirrels and similar rodents, birds, deer, moose, and predators.
- Wind breaks. Trees act as wind breaks, minimizing the eroding effect of breezes and the potential harmful effect of strong winds on natural and man-made features.
- Pollution mitigation. Trees cleanse the air during the photosynthesis process by consuming nitrogen and releasing oxygen.
- Greenery. Trees provide a respite from the urban landscape, relieving the monotony of paved areas and residential development.
- Recreation. Forested land provides areas for hunting, hiking, cross country skiing, horseback riding, and nature study recreation.
- Character and Aesthetics. Forested land can establish or add to the ambiance of a community particularly when interspersed by open vistas and when comprised of both deciduous and evergreen trees.
- Soil stabilization. Vegetation reduces soil erosion caused by wind and water.

The 1985 Conservation Recreation Plan indicated that approximately forty percent of the Town was forested primarily with white pine, oak, maple, hemlock and birch trees. Although the increase in development that the Town has faced has destroyed some of the forested land in Town, abandonment of farmland has

allowed a significant portion of the Town's land to become reforested. The Town maintains several large parcels of forest land managed by the Town Forest Commission.

The Town practices forest management. Selected clearing is allowed to stimulate the growth of existing trees and to foster new growth. The clearing fosters the growth of a variety of tree and animal species, and provides income to the Town. Many private landowners also manage their forest land with forest cutting plans, approved by the Department of Environmental Management. Some landowners also choose to put their land under Chapter 61 which provides a substantial tax benefit.

Unless in public ownership or placed under development restrictions, it is not possible to guarantee that forested land will remain undeveloped. As previously indicated, because of the shortage of easily developed land, developers are turning to land that was once considered uneconomic to develop. The cost of clearing heavily forested land has forced some developers to overlook such land in favor of cleared areas. Until relatively recently, land development practice generally resulted in the clearing of forested areas to allow for access by heavy construction machinery. This, in turn, resulted not only in the loss of the forest itself, but also the loss of the wildlife associated with the forest. However more recently, cleared agricultural land has been developed for residential use as seen in Section 5.

The Town of Lunenburg has taken steps to reduce the loss of forested land. A planned residential area bylaw was adopted to allow for development that maintains as much of the land in its natural state as is feasible. Furthermore, the Town's subdivision regulations call for re-vegetation of cleared areas to prevent erosion, the planting of street trees, and the retaining of the natural vegetation on the site wherever possible. As mentioned previously, the Town has also made several land acquisitions that will preserve key parcels of undeveloped land.

#### 4.D.2 General Inventory

Lunenburg was once a farming community. Agriculture is still an important part of the Town's economy, with approximately five percent of the land in farm related activities. The Town retains an open character, with undeveloped pasture land, productive farm fields, and orchards lending to the semi-rural ambiance of the Town. Approximately two-fifths of the Town remains in forest, and over 1200 acres are devoted to sand and gravel removal, generally a neat, well-landscaped operation.

The forest growth is predominantly white pine, oak, maple, hemlock and birch. See also the description of the Henry B. Cowdrey Nature Center in Section 5.

Important trees in Lunenburg include historical and public shade trees, as follows:

- Evergreens behind the Historical Society planted by Mr. Cruikshank in 1892 when the center school was built
- Buttonwood tree at Buttonwood Place, 1775 & buttonwood planted 1976 in front of Historical Building as memorial
- Sugar Maples on Northfield Avenue, 1800's
- Ginkgo on Lower Common
- Trees over 54" in diameter: Oak on Page St. west of Flat Hill, Sugar Maple on Townsend Harbor Rd. east of Mass. Ave., Oak at North Cemetery on Holman St near south entrance, White Oak at Proctor Park 2000' south of east end, White Oak on Rolling Acres (south end), Maple on White Street near Fitchburg line.

#### 4.D.3 Rare, Threatened and Endangered Species

Lunenburg is fortunate to still have a wide variety of habitats that support a diversity of wildlife and plants. Lunenburg has preserved more of its open fields and farmlands than some surrounding communities and both upland and forests abound. The marshes and wetlands of the Mulpus Brook and the open water habitat of its lakes and ponds add to the diverse habitats in Town.

Vernal pools are small, shallow ponds characterized by a lack of fish and annual or semi-annual periods of dryness. Vernal pool habitats are extremely important to a variety of wildlife species, including some amphibians that breed exclusively in vernal pools, and other organisms such as fairy shrimp which spend their entire life cycles confined to such locales.

The Massachusetts Natural Heritage and Endangered Species Program (NHESP) "certifies" the occurrence of vernal pools based on documentation of the pool's use by one or more groups of species that rely on vernal pools. This process relies on volunteers to identify vernal pools, and to collect and submit documentation. Official certification provides a vernal pool, and up to 100 feet beyond its boundary in some cases, certain protection under several state and federal laws. Lunenburg contains eleven certified vernal pools scattered throughout the community, though there are certainly many more vernal pools in Lunenburg than those that have been officially documented.

NHESP identified the locations of another 134 potential, unverified, vernal pool habitats visible on aerial photographs in Lunenburg. All of these "potential vernal pools" are not *necessarily* actual vernal pools, nor does this list *necessarily* include every vernal pool in Town. Many vernal pools were not identified in this process due to unfavorable conditions in the landscape topography, pool physiography and/or photograph quality. Furthermore, vernal pool habitats occur in a wide variety of landscape settings, including forested swamps, bogs, and other wetlands. Vernal pools existing within these settings are nonetheless legitimate and valuable vernal pools. Field verification and/or certification of all potential vernal pools would identify errors such as the inclusion of features that are not actually vernal pools.

A number of rare species protected under the Commonwealth of Massachusetts Endangered Species Act (MESA) are found in Lunenburg; although only the Wood Turtle and the Blanding's Turtle have recent observations (see Table 9). In order to protect them from collectors, the exact locations of rare flora and fauna observations are not listed. The NHESP has identified "Priority Habitats for Rare Species" representing the geographic extent of Habitat of state-listed rare species in Massachusetts based on observations documented within the last 25 years. Priority Habitats are the filing trigger for proponents, municipalities, and other stakeholders for determining whether or not a proposed project must be reviewed by the NHESP for compliance with MESA. The NHESP has also identified "Estimated Habitats for Rare Wildlife" for use with the Wetlands Protection Act regulations (310 CMR 10.00). The Estimated Habitats are a subset of the Priority Habitats of Rare Species based on occurrences of rare wetland wildlife observed within the last 25 years. They do not include those areas delineated for rare plants or for rare wildlife with strictly upland habitat requirements.

Table 9: Observed Rare, Threatened, and Endangered Species in Lunenburg

Taxonomic Group	Scientific Name	Common Name	MESA Status	Most Recent Observation
Bird	<i>Accipiter striatus</i>	Sharp-shinned Hawk	SC	1937
Bird	<i>Bartramia longicauda</i>	Upland Sandpiper	E	1892
Bird	<i>Cistothorus platensis</i>	Sedge Wren	E	1937
Mammal	<i>Sorex palustris</i>	Water Shrew	SC	1914
Mammal	<i>Synaptomys cooperi</i>	Southern Bog Lemming	SC	1898
Reptile	<i>Glyptemys insculpta</i>	Wood Turtle	SC	2005
Reptile	<i>Emydoidea blandingii</i>	Blanding's Turtle	T	2006
Vascular Plant	<i>Platanthera flava var. herbiola</i>	Pale Green Orchis	T	1938

*E = endangered, T = threatened, SC = special concern*

Often rare species are obscure and will not be noted unless actively searched out. Potential habitat for these species should be evaluated. Vernal pools in particular may turn up additional rare species. Many of the state-listed species that occur in Lunenburg require the open habitat of fields.

In particular, the stretch of Mulpus Brook from Hickory Hills Lake to the Shirley border is an important resource for wildlife. The area around the Lake supports many of the Town's rare species. The MNHESP recommends focusing on protections of those areas as well as the North Cemetery wetland area which also supports rare species habitat. Maintaining normal water level fluctuations in wetlands and connections between resources are vital in maintaining habitat as well as water quality. The removal of non- native species is another important maintenance requirement of rare species habitat. Regional coordination should protect linked corridors.

#### **4.E. Fisheries and Wildlife**

##### **4.E.1 Inventory**

The varied development pattern of the Town provides different habitat for wildlife. Land in agriculture generally supports birds and small rodents, and forested land supports a variety of animal life from snakes and birds to large mammals. The many lakes and streams support fish and other aquatic life, and wetlands in the Town offer habitat for birds, amphibians, and mammals. According to the 1985 Recreation Conservation Plan, the inventory of animals in Lunenburg includes deer, fox, fish, raccoons, mink, muskrat, beaver, otter, skunk, great blue herons, Canadian geese, ducks, owls, hawks, and pheasant. With the state-wide restrictions on all trapping other than box traps, in place since 1996, beaver populations have increased resulting in flooding of roadways and private properties. An increasing number of coyote has also been observed in Town, with an associated increase in the number of missing small pets. In addition, fishers have also increased in numbers. Rabies had reduced the raccoon population dramatically; however, populations appear to be on the rise again. As mentioned earlier, deer populations have increased, resulting in a number of motor vehicle collisions.

The Cooper's Hawk and the Sharp-shinned Hawk, both on the Massachusetts Species of Special Concern, have been regularly sighted. Other bird sightings are listed below:

Turkeys: Wild Turkey

Typical Owls: Great Horned Owl

Pigeons / Doves: Morning Dove

Woodpeckers: Common Flicker (Yellow Shafted & Red Shafted)

Pileated Woodpecker

Downy Woodpecker

Bald Eagles  
 Hairy Woodpecker  
 Red Bellied Woodpecker  
 Flycatchers: Eastern Kingbird  
 Great Crested Flycatcher  
 Least Flycatcher  
 Jays / Crows: Blue Jay  
 American Crow  
 Titmice: Black Capped Chickadee  
 Tufted Titmouse  
 Nuthatches: White Breasted Nuthatch  
 Red Breasted Nuthatch  
 Mimic Thrushes: Gray Catbird  
 Thrushes: Eastern Bluebird  
 American Robin  
 Starlings: European Starling  
 Wood warblers: Black Throated Blue Warbler  
 Pine Warbler  
 Blackbirds: Red Winged Blackbird  
 Orchard Oriole  
 Baltimore Oriole  
 Common Grackle  
 Brown-Headed Cowbird  
 Tanagers: Scarlet Tanager  
 Finches: Northern Cardinal  
 Rose Breasted Grosbeak  
 Indigo Bunting  
 Evening Grosbeak  
 Purple Finch  
 House Finch  
 American Goldfinch  
 Rufous-Sided Towhee  
 Slate Colored Junco  
 Variety of Sparrows

#### 4.E.2 Corridors

The wildlife includes deer, fox, fisher, raccoon, mink, beaver, otter, skunk, great blue heron, Canadian goose, duck, the great horned owl, hawk and pheasant. As the Town and its neighbors develop, reducing their usual habitat, birds and animals are becoming more prevalent in residential areas and/or are moving to less developed areas. The Town has made an effort to preserve contiguous parcels of land, especially in the western portion of town, to provide corridors for wildlife. In addition, the passage and enforcement of the Wetlands Protection Act and Rivers Protection Act should protect remaining corridors along the town's streams.

For rare, threatened and endangered species, see the description of the Town's rare, threatened, and endangered species presented in Section 4 (D)(3).



#### **4.F. Scenic Resources and Unique Environments**

##### **4.F.1 Scenic landscapes**

The Town's semi-rural nature provides for some very scenic views. Mentioned previously was the view of the open fields, wooded areas and hilltops from Lancaster Avenue. In a cooperative effort between the Towns of Lunenburg, Shirley, and the Department of Fisheries and Wildlife, a broad and scenic grassland area in the northeastern portion of Town has been preserved adjacent to Hunting Hill. Also important to the character of the Town are the scenic tree-lined roadways. See also discussion of Landscape Characteristics on page 13.

##### **4.F.2 Major Features**

Unique geologic features in the Town are a result of the glaciations that covered North America tens and hundreds of thousands of years ago. These features include the previously described eskers, kames and moraines, which provide hiking and nature exploration recreation opportunities. Many of these features are evident in the eastern portion of town in and around Lake Shirley. To the east of Lake Shirley a kettle pond is located in a large portion of the Town's undeveloped land. Unique boulder rock formations, referred to locally as Table Rock and Diamond Rock, provide opportunities for appreciation of the randomness of nature.

##### **4.F.3 Cultural and Historic Areas**

Lunenburg's Town center has a typically New England flavor. The Town Hall, local churches, and many locally important structures dominate the center. The Town created a 102-acre Historic District listed with the National Register of Historic Places administered by the National Park Service that includes many buildings within the Town Center. Table 10 lists the structures and sites within the Historic District.

**TABLE 10: Structures and Sites in the Historic District**

<b>Name</b>	<b>Address</b>	<b>Name</b>	<b>Address</b>
Bellows House	Memorial Dr.	Franklin S. Francis House	944 Mass. Ave.
Putnam Store	Town Ctr.	Susan Brown House	950 Mass. Ave.
Town Hall	17 Main St.	Ritter Memorial Library	960 Mass. Ave.
Congregational Church	Town Ctr.	Simon Heywood House	993 Mass. Ave.
Jones House	42 Main St.	Brooks House	1033 Mass. Ave.
Methodist Church	50 Main St.	Lane House	1091 Mass. Ave.
John Howard House	58 Main St.	A.K. Francis House	3 Lancaster Ave.
Wooldredge House	76 Main St.	Richardson House	19 Lancaster Ave.
Locke House	94 Main St.	No.1 School House	23 Lancaster Ave.
Elwin Marshall House	91 Main St.	Benjamin Whiting House	43 Lancaster Ave.
Marshall Cottage	3 Oak Ave.	William Harrington house	53 Lancaster Ave.
Barney House	78 Oak Ave.	Cushing House	73 Lancaster Ave.
Gilcrest House	13-15 Oak Ave.	Elmdale House	125 Lancaster Ave.
Town Pond	Highland St.	Cunningham House	86 Lancaster Ave.
Passios House	72 Highland St.	Bandstand	Lower Common
1730 House	795 Mass. Ave.	Stone Watering Trough	Lower Common
Hildreth House	876 Mass. Ave.	Clifton House	53 Whiting St.
Jewett House	920 Mass. Ave.		

Some of the structures are in need of repair, including the Town Hall. In addition to the need for repair, new development within the District should be designed in a manner that enhances the integrity the unique architecture and character of the area.

#### 4.F.4 Area of Critical Environmental Concern, Squannassit Designation

More than 4,000 acres of the Squannassit Area of Critical Environmental Concern (ACEC) lie within the town of Lunenburg. These areas are primarily in the Mulpus Brook and Catacunamaug Brook sub-basins; however, there is a portion in the northwest corner of the Town that lies within the Squannacook sub-basin.

This ACEC was designated in December 2002. The Nashua River corridor is the central resource for this ACEC. The contributing resources for the Squannassit ACEC include water supplies, habitat resources, land use and open space. All three of these supporting categories exist within the portion of the ACEC within Lunenburg.

The ACEC program regulates designations of ACECs and directs the EEA to take action, administer programs and revise regulations to preserve, restore, and enhance the natural and cultural resources of the ACECs. The ACEC program does not regulate development within the boundaries; however, the purpose and goals of the designations are implemented through a variety of state agency programs and regulations.

#### **4.G. Environmental Challenges**

Lunenburg's environmental problems have been discussed in detail in the Growth Management/Strategic Plan, a separate document. They are primarily related to the lakes and traffic.

Lunenburg currently has five hazardous waste sites listed by the Massachusetts Department of Environmental Protection (DEP) as well as eighteen spill sites. These include leaks from underground storage tanks as well as releases from vehicles. Of the five listed 21E (state superfund) sites, only one of Townsend Harbor Road is a Tier 1A (high priority) confirmed disposal site. Although the cleanup of these sites is governed by the State, the Town needs to monitor the progress on the investigations and remediation of these sites.

Specific environmental challenges and updates have been identified. The town landfill is capped and closed. The town does not experience significant erosion or chronic flooding. Sedimentation issues have been addressed by storm water bylaws. Development impacts have been addressed in the Growth Management/Strategic plan, as mentioned above. Regarding ground and surface water pollution, there are two areas of potential concern: 1) Mulpus Brook drains into Hickory Hills Lake, and is being monitored for any issues, and 2) the disposition of waste products and chemicals from the former Aro chicken farm are unknown at this time. Lunenburg has not experienced forestry issues, but is planning for forestry harvesting on certain conservation lands (see 9.Goal 2.C.1). Regarding environmental equity, defined as ensuring that no policies place a disproportionately negative environmental burden on any single group, Lunenburg's open space policies protect the town's residents equally.

## SECTION 5:

### *Inventory of Lands of Conservation and Recreation Interest*

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Open space refers to conservation land, greenways, recreation land, parks, and other undeveloped areas. Open space is critical to the value Lunenburg's residents place on the rural beauty of the town. Protected open space means lands that are permanently prohibited from being converted to non-conservation or non-open space uses. Lands owned by state conservation agencies and the Conservation Commission are protected. Some open land is of recreation interest but not protected. The town also has acreage under APR preservation restrictions, or enrolled in Chapter 61 protection. See Appendix 6, Land Inventory for details.

#### 5.A. Protected Open Space

An Article was placed on the warrant for the 1961 Town Meeting calling for the acceptance of certain chapters of the General Laws which would permit the establishment of a Conservation Commission "for the promotion and development of the Town's natural resources." To date, the Town has made significant progress to preserve the natural characteristic of the Town, totaling approximately 1,900 acres.

**TABLE 11: TOWN AND STATE CONSERVATION LAND**

	LOCATION	Approx. ACREAGE
Town	Ben Normand Park	68
	Brown/Northfield	3
	Brown/Pleasant St.	68
	Clark's Hill	17
	Cowdrey Nature Preserve	313
	Fairbanks Land	9
	General Builders	2
	Hawe's Land	27
	Hunting Hill	120
	Kulju Land	1
	Large Town Forest	280
	NW Town Forest	260
	Proctor Park	24
	Rayno Land	58
	Robb's Hill	129
	Small Town Forest	302
	White Rabbit Swamp	30
	Woodruff	120
		<b>1904</b>
State	Massachusetts Avenue	0.92
	Massapoag Pond	66.00
	New West Townsend Road	127.00
	Whalom Lake	102.00
		<b>295.92</b>

## **5.B Municipal Land and Facilities**

### 5.B.1 Managed by the Parks Department (33 acres)

- 1) The Town of Lunenburg has approximately 22,000 square feet of lakefront property on Lake Whalom. There is parking and a sidewalk with a chain link fence to limit access to the water. Fishing is permitted along the sidewalk.
- 2) The Lunenburg Town Beach is approximately 1/2 acre. It consists of a sandy beach, a building with changing rooms and comfort station. It also has a small playground/tot land. This beach is for Lunenburg residents only and a small fee is charged. Sunbathing and swimming is available. Parking is available along the street.
- 3) Marshall Park, which is 24 acres in size, includes a small four acre pond. Baseball, softball, bicycling, hiking, picnicking, nature observation, tennis, walking, jogging, and cross country skiing are available on this site. Off street parking is available.
- 4) Wallis Park is two acres. It has one softball/baseball field and a building as a food concession stand.
- 5) Brian McNally Park is a .2 acre site. It contains a monument to veterans and a flagpole.

### 5.B.2 Municipal Land Managed by Other Town Departments

#### 5.B.2.1 The Lunenburg School Department has three areas in town (131 acres):

- 1) The T.C. Passios Elementary School, Grades 1-4
  - 2 fields of baseball/softball
  - 1 soccer/football field
  - 1 playground/tot lot
  - General play, nature observing, snowmobiling
- 2) The Turkey Hill Middle School, Grades 5-8
  - 1 football/soccer field
  - General play, nature observing, hiking, bicycling, cross country skiing
- 3) Lunenburg High School, Grades 9-12
  - 1 outdoor basketball court
  - 2 baseball/softball fields
  - 2 football/soccer fields
  - 4 tennis courts
  - 1 food concessions stand
  - 1 stage
  - General play, nature observing, hiking, bicycling, cross-country skiing, and skateboarding.
- 4) Elementary School Annex
  - 1 playground/tot lot
- 5) New Primary School
  - 1 playground/tot lot

#### 5.B.2.2 The Cemetery Department has two cemeteries under their care and protection (53 acres).

- 1) The North Cemetery, which lies in the northern part of town
- 2) The South Cemetery, which lies in the southern part of town
- 3) The Cemetery Department also has a small building on Holman Street for an office and storage of equipment. It occupies about 1 acre of land.

5.B.2.3 The Highway Department New Town Barn is located on Chase Road

## **5.C Land Permanently Protected**

### 5.C.1 Lunenburg Water District (151 acres)

The Lunenburg Water District is a private agency separate from the town government. The original Water District was laid out under the Water Protection Act and provides water to forty-five percent of residences and businesses in Lunenburg. It owns approximately one hundred and twenty acres of land between Lancaster Avenue and Reservoir Road. The land consists of open fields and wooded areas. Catacunamaug Brook runs through the property. The wells at Hickory Hills Lake are not on the Water District property but it has a land use restriction. The town has adopted a Water Supply Protection Bylaw as part of its zoning bylaw. There are no trails or parking areas available to the public.

### 5.C.2 Commonwealth of Massachusetts (226 acres)

1) Whalom Lake is a 90-acre lake classified as a great pond. A public access boat ramp is in Leominster. The Lunenburg Town Beach provides access for swimming for residents only. Fishing, boating and swimming are available.

2) New West Townsend Road Conservation Land consists of approximately 100 acres and is under the jurisdiction of the Office of the Commissioner of Department of Environmental Management. The state forest consists of hardwood and laurel. Scatterings of small and large stones distributed by the ice age are present. Old stone walls dissect the landscape and an old cellar hole is located in the area.

### 5.C.3 Conservation Restrictions

A conservation restriction allows a property owner to maintain ownership while protecting land from development in perpetuity if the Commonwealth approves it.

The Town of Lunenburg has 810 acres of land under the Agricultural Preservation Act. It is mainly along the Lancaster Road and Leominster Road corridor. The land is mainly open field, which is still used for farming. Corn, hay and vegetables are the main crops.

## **5.D. Unprotected Parcels (606 acres)**

The following is a list of unprotected parcels.

- 1) Global Properties (43 acres) formerly Whalom Park
- 2) Lake Whalom Driving Range (17 acres) - This 17 acres open sloping field is used as a driving range during spring, summer and fall. It is used for snowmobiling in the winter. This land is in Chapter 61B as recreational land. There is public parking.
- 3) Lunenburg Sportsman Club (12 acres)- The club is a private club consisting of 12 acres of which 10 acres are listed as recreational land and under Chapter 61B. It has some open space and wooded areas. It has shooting ranges and a small pond for fishing and picnic tables. There is also a small building on the land. The Catacunamaug Brook runs through the property.
- 4) North Leominster Rod & Gun Club. Inc. (110 acres) - This private club consists of three parcels of land used for recreation and under Chapter 61B. The total acreage is 110. It is mainly a wooded area. It has a skeet, trap and rifle range at various locations around the clubhouse. It also has a small pond on the property used for fishing. There are a few unmarked trails on the land. Easter Brook runs through the property.
- 5) Maplewood Realty Trust (99 acres) owns the ninety-nine acre nine hole public golf course. It has five picnic tables and has an assortment of open fairways and greens surrounded by wooded areas. There is a club house located at the golf course.

6) Northfield Association (325 acres).

### **5.E. Chapter 61 Parcels**

The Town of Lunenburg has approximately 1850 acres in Chapter 61, 61A, and 61B limited protection. This provides great opportunities in the future. The Town must begin to make plans to secure the finances necessary to secure some of this land as open space.

Chapter 61 lands are privately held properties governed for tax purposes by Massachusetts General Law (MGL) Chapter 61. Chapter 61, 61A, and 61B are designed to encourage the preservation and enhancement of the Commonwealth's forests, valuable farmland and recreational open space. It offers significant local tax benefits to property owners willing to make a long-term commitment to forestry, farming, and preserving land for outdoor activities. In exchange for these benefits, the city or town in which the land is located is given the right to recover some of the tax benefits afforded the owner when the land is removed from classification and an option to purchase the property should the land be sold or used for non classified uses.

The city or town has an option to purchase any classified land whenever the owner plans to sell or convert it to a residential, commercial or industrial use. The owner must notify by certified mail the mayor or city council or the selectmen, assessors, planning board and conservation commission of the city or town of any intention to sell or convert the land for those uses. If the owner plans to sell the land, the city or town has the right to match a bona fide offer to purchase it. If the owner plans to convert it, the city or town has the right to purchase it at its fair market value, which is determined by an impartial appraisal. The city or town may also assign its option to a nonprofit conservation organization. The owner cannot sell or convert the land until at least 120 days after the mailing of the required notices or until the owner has been notified in writing that the option will not be exercised, whichever is earlier. Owners may chose to withdraw from the program without triggering the town's right of first refusal or roll-back tax penalty.

The Town has a demonstrated history of purchasing land under Chapter 61. For example, the Woodruff parcel that lies along Leominster Road along one of the phased sewer projects was purchased and placed under assessment as Chapter 61A land, thus avoiding conversion of the property into extensive development along the skewered Leominster Road and thus preserving open space.

## SECTION 6: *Community Survey*

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### **6.A Description of Process**

A survey was sent out with tax bills, also available at the Town Hall, at the annual Town Meeting and online, with the hope of reaching every homeowner in town and receiving a response from a representative cross section of the town's residents. Tabulated results of the responses to this survey are included in Appendix 4. The significant number of responses received was encouraging. Analysis of the results contributed to the establishment of the goals for the community. This analysis revealed the following:

1. A significant number (approximately 70%) of the survey respondents stated that they chose to live in the town because of its rural atmosphere. Preservation of this characteristic will be a challenge in the face of the increased number of housing projects proposed and/or under construction in the town.
2. Of the existing recreational areas in the town, the town's conservation lands and trails were utilized at least once a year by 47% of the respondents. This number was exceeded only by the use of town sidewalks at 49%. Other often used recreational areas included the Bandstand/Gazebo where summer band concerts are held and the walking/jogger trails available in the town.
3. In answer to the survey question regarding what additional recreational facilities citizens would like to have in town, it was apparent that facilities requiring preservation of open space were the most favored - including: bikes, conservation areas, hiking/passive and/or ski trails and a nature center facility. These four subdivisions of the total of twelve possible facilities garnered 64% of the responses from the citizenry.
4. The importance of preserving open space was also apparent when 71% responded favorably to "protection of open space for conservation" and 64% would "vote for zoning changes to protect open space."
5. A significant number of respondents indicated that they relied on local newspapers for information regarding recreational opportunities in the town.

### **6.B. Statement of General Open Space and Recreational Values.**

Lunenburg Boards, Commissions and Committees have always been cognizant of the quality of life needed for its citizens. The Town is in good health through careful planning to insure that the community is balanced with protected residential areas, small commercial and industrial sites, conservation and forestry lands, and recreational sites. The Conservation Commission is a proactive committee that keeps close guard on compliance to Conservation statutory requirements. The Committee seeks lands to guarantee open spaces. The Park and Schools Departments are active in creating recreational opportunities for all citizens. The purpose of the update process for the Open Space Plan is to continue to build on the already protected elements and to become specific with definite goals to continue a healthy quality of life for Lunenburg's citizens. With this guidance, the following Community values direct Lunenburg's open space planning.

1. Preserve the aesthetic quality of the Town including gateways and vistas.
2. Establish an awareness of open space availability, benefits and programs through outreach and education.
3. Create a partnership between government and the private/public sector for stewardship and management of open spaces and the community's natural resources.
4. Prepare a land plan that identifies parcels that will insure geographic diversity in the Town's Open Space Plan.
5. Develop additional recreational areas, and upgrade and maintain present facilities.
6. Explore all possible sources for acquiring funding assistance for the protection of significant open space/recreational areas as they become available.

## SECTION 7: *Analysis of Need*

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### **7.A. Summary of Resource Protection Needs**

The Town of Lunenburg has recognized a need to be protective by supporting the purchases of large parcels of land through the Town Meeting and by passing Protective Zoning Bylaws to manage growth. An example is the Cluster Development Bylaw which requires a percentage of open space in parcels of land over twenty five acres and clustering of lots. The Town further supports the Conservation Commission's proactive approach to acquisition to further the protection process.

The Planning Board, Conservation Commission, School and Park Departments wrote Tables Six and Seven in this section. These tables show the Standard Norms for recreational activities, the existing recreation facilities and spaces in Lunenburg and the projected need at full build out. It behooves the Town to constantly refer to these tables to find the ideal direction for open space and recreational activities which safeguards the quality of life for the community. These tables were reviewed for this update of the Open Space Plan.

#### 7.A.1 Management

In this review for the Open Space Plan, discussions held within the envisioning process noted that the infrastructure available for the updating and upkeep of open space and recreational lands have been lacking. The open space land and recreational facilities need "use and management" plans. The areas need to be identified as to their primary use, passive, active or habitat. An in- depth critique to ascertain the quality of performance for the uses is necessary. This will insure the purposes for which they are intended are carefully managed. The Town Boards, Commissions and Departments, with citizens' participation, should participate in this management. Further, the Town has worked and will continue to be very active in working locally and regionally with Nashua River Watershed Association, Division of Fisheries and Wildlife, and other entities.

#### 7.A.2 Chapter Lands

Lunenburg has a new awareness of Chapter Lands. In this awareness, the Community has noted that the land that has been protected for private land ownership under Chapter 61, can easily be released into development land. Due to two recent purchases of Chapter land that contributes to balanced open space, the Community is looking for proactive plans for the use of these and other open space lands. A plan should be created to identify and evaluate these properties and determine how they will fit into our resource protection plans.

This evaluation should be made known to the public so the Community as a whole will participate actively in determining their needs regarding open space. This will aid in the future acquisition of identified parcels that are important to Lunenburg.

### **7.B. Summary of Community Needs**

#### 7.B.1 Primary Needs

In the envisioning workshops to update the Lunenburg's Open Space Plan, the primary issues presented by the participants were the following:

- To provide even distribution of open space to insure geographic diversity.
- Improve access to all current community owned land.
- Preserve Lunenburg's agricultural uses with incentives.



- Afford public access to the lakes.
- Institute methods for connecting trails.

### 7.B.2 Water Resources

Discussions were held concerning protection of the Town's Water Resources. Identification of potential well sites was done in 1987 by a cooperative study with the Town and the Lunenburg Water District. Five well sites were identified in addition to the developed well site on Lancaster Avenue. One site at Hickory Hills has been brought to fruition. It is determined by the Lunenburg Water District that the combination of the Lancaster Avenue well site and the new well at the Hickory Hills site should provide adequate water supply for the Town for 15-25 years. In addition, the remaining well sites are protected in Zone 1 by the Zoning Bylaw, Water Supply Protection District, and Section 4.9. The Lunenburg Water District extended their district in the nineteen nineties (1990s) to increase the geographic area for future expansion and to enable more citizens to participate, through their vote, on matters concerning water resources in their community.

### 7.B.3 Historical Commission

The Lunenburg Historical Commission recognizes the value of the Town's "Open Space and Recreation Plan" to our goal of protecting the community's significant historic resources. A detailed plan of action will enable all departments, guiding them to a better understanding of the historic foundation of Lunenburg's character, and the way and means by which it might be preserved and enhanced. The Historical Commission believes it is in the public interest to interact with the Planning Board and the Conservation Commission toward this end.

### 7.B.4 Present Needs

At present, Lunenburg is actively addressing open space and recreational needs. It has progressed in a proactive mode. However, the Community still has not reached its ultimate goals. Primarily this is due to the lack of productive long range planning. The following issues need to be addressed.

#### 7.B.4.1 Acquisition, Use and Management Needs

- The Town needs to ascertain the parcels of land (both undeveloped private lands and Chapter lands), that could become available and would fit into the Town's inventory of presently owned and/or protected lands. This would create a network of open spaces with geographic diversity.
- The Town needs to investigate all avenues of acquisition available including land trust, conservation easements, etc.
- The Town needs to design appropriate use plans for each presently owned parcel of open space or area, whether it be a passive, active or habitat use.
- The Town needs to write a maintenance plan for each parcel and assign the plan to the appropriate departments and/or initiate a volunteer stewardship program.
- The Town needs to project a plan that will connect as many trails and public conservation lands as possible.
- The Town needs to find a mechanism for funding the planning and management of these parcels as well as some direct acquisitions.

#### 7.B.4.2 Funding Needs

- The Town needs to assess the cost of open space acquisitions and use programs.
- The Town needs to provide a cost analysis and projections of ability to pay.
- The Town needs to initiate a budget line for open space and recreational use.
- The Town should be involved in Land Trusts, such as North County Land Trust.

## **7.C Education and Communication**

The issues listed in this section are not only the responsibility of the governing Town departments, but of all the citizenry of the Community. While Lunenburg's citizens have a sense of community and a fierce loyalty to the essence of Lunenburg, they are not always aware of the basic need of open space. This is partly due to lack of education and communication. Informed citizens become the best protectors. Thus, communication and education is a critical need. The following should be instituted to provide this need:

- All information and data surrounding protective open space issues should be dispersed to the public via news media or bulletins.
- An advertising strategy to promote the present open space lands should be created.
- Systems of identification for passive recreation areas, such as signs and brochures, should be instituted.
- Educational programs on preserving natural resources and their benefits should be included in the school curriculum.
- Seminars on open space planning and benefits for the general public should be held.
- Programs such as "adopt a trail" should be initiated.
- Volunteer groups should be formed to assist in open space programming.
- Continuing "Envisioning Sessions" should be planned.

The above will provide information so that the townspeople know what resources are available to them. Awareness should encourage citizens to use the resources, and similarly encourage volunteer groups and private/public partnerships.

## **7.D Recreational Expansion Needs**

A study to assess the present active recreational areas is needed. The study should note any necessary repairs, improvements, or expansions. It should also note the needs for any new fields or other areas. The status of public access to the lakes should be investigated. A projection of Lunenburg's public beach use and needs, presently and in the future should be assessed.

## **7.E Handicap Accessibility**

The Town needs to address handicap accessibility in all its open space and recreational areas.

## **7.F Statewide Comprehensive Outdoor Recreation Plan (SCORP) Needs Assessment & Impact on Lunenburg**

The Massachusetts Statewide Comprehensive Outdoor Recreation Plan (SCORP) was updated in 2006, in support of providing state and municipal eligibility for the federal Land and Water Conservation Fund (LWCF) program. While the SCORP supports decisions about which project applications will be funded under the LWCF, the plan's data and recommendations regarding public open space needs provide valuable guidance in local town open space planning as well. The SCORP process measured public desires for new and existing recreational resources via surveys of residents by region. Lunenburg is in the Central region. The SCORP concludes that population growth and demand for recreational resources in our area has outstripped the available recreational resources, emphasizing the importance of Lunenburg's goals to protect the resources in existence today, and plan for acquisitions in the future. The SCORP plan provides specific data on Central Massachusetts residents' participation rates and satisfaction levels with specific outdoor activities. This data, which is at the regional level, tracks well with the priorities Lunenburg has identified.

The SCORP analysis shows that for funding preferences and inferred needs, respondents in the Central region placed highest priority on maintenance and improvements of existing outdoor areas (specifically parks and trails), preserving agricultural lands, and improving access for the disabled (SCORP pg. 69 & 70).

Walking, attending outdoor events, and hiking are reported as highly popular in our region (SCORP pg. 72). Taking trips to forests are twice as popular in our region as the rest of the state. The strongest dissatisfaction ratings are reported for trails, agricultural land, and wildlife conservation areas (SCORP pg. 75). Lunenburg's Acquisition, Use and Management Plans, Funding Needs, Education and Communication plans, Recreational Expansion Needs, and Handicap Accessibility plans are consistent with the analyses presented in the SCORP.

## SECTION 8: *Open Space Vision*

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Lunenburg's Open Space vision reflects the specific needs and values of Lunenburg's residents, identified resource needs and conservation priorities. The Town's goals are ambitious, but increased levels of citizen and volunteer activities have encouraged us to develop objectives that take advantage of the enthusiasm of our residents. These are the Committee's ideas and vision for future direction; there are likely others that could be added to this list. They are not specific action items, but a guide to help develop specific achievable steps that will be taken over time. The 5-year Action Plan outlines the steps which will implement this vision, and is presented in the following section of the Open Space Plan (Section 9).

### **Goal 1.0 Maintain Rural Character.**

Overwhelmingly, townspeople value the scenic and semi-rural character of Lunenburg – defined by the mix of pastoral agricultural landscapes and large natural areas buffering many of the town's winding country roads.

#### Objective 1.A : Keep Lunenburg's Farms Viable

##### *1.A.1 Adopt the APR Program's "farm friendly" measures, such as:*

- Implement a tracking process to prevent issuance of local permits for unauthorized construction on protected farmland
- Explore the role of an Agricultural Commission or like entity to address the needs of the agricultural community, and consider establishing such entity
- Enact a municipal Right-to-Farm bylaw and review/revise existing agricultural bylaws as needed

##### *1.A. 2 Promote "Buy Local" efforts to support Lunenburg-grown and/or made products and services:*

- Promote local and regional direct marketing opportunities, including but not limited to enhancing Lunenburg's newly-established farmers' market
- Develop community agricultural events and/or promotions
- Assist in agricultural economic development, such as a TIF (tax incentive) for a business that supports local agriculture or assistance in locating and developing a value-added processing facility

##### *1.A.3 Protect remaining farms/agricultural land with APR Program's assistance*

- Identify/inventory/map farmland to be protected
- Establish a town farmland protection fund
- Demonstrate support for farmland preservation under Chapter 61A by either exercising or assigning municipal Right-of-First-Refusal to non-profit land preservation organizations
- Create an agricultural overlay district and develop site plan review on single-family house lots within such districts
- Create buffer requirements on any non-farm development adjacent to agricultural lands
- Implement a program that redirects development to marginal, non-agricultural areas
- Work with regional efforts to include active agriculture in regional land use planning

##### *1.A.4 Educate and engage residents and schoolchildren about farming*

- Establish a school-based garden club, and enhance 4-H Club
- Consider on-farm service learning for students to get credit for working on a farm
- Create a community garden where residents can garden together

##### *1.A.5 Resolve the status of the Woodruff property*

Objective 1.B Conserve the most important wildlife habitats and drinking water resources

*1.B.1 Enact zoning reforms to protect priority areas.* Note that Lunenburg's outlying zoning protection change was effective in May 2009. The minimum required lot area is now 80,000 square feet.

- Create/enhance overlay districts
- Consider growth controls/limits

*1.B.2 Protect properties of highest resource value*

- Identify/inventory/map properties of highest resource value
- Create a policy and process for responding to Chapter 61(A,B) opportunities across municipal boards and departments
- Provide detailed information for citizens on land conservation techniques, such as conservation restrictions, bargain sales, Chapter 61(A,B) enrollment, etc.
- Develop a process for reaching out to owners of the highest-priority, unprotected lands, and implement direct dialogue with such owners
- Engage assistance of non-profit partners for conservation such as North County Land Trust, Nashua River Watershed Association, and other local organizations

**Goal 2.0 Enhance and Promote Existing Open Space and Recreation Assets.**

Maximizing the utility, access, and awareness of Lunenburg's wealth of existing open space and recreation areas and facilities, and making improvements or additions where necessary, is efficient and cost-effective.

Objective 2.A Improve community awareness of existing open space/recreation assets

*2.A.1 Establish a formal "Open Space Committee" for implementing OSRP priorities and for keeping OSRP current and up-to-date*

*2.A.2 Create trail maps for existing conservation areas (at least 3 properties) and/or a guide to public recreation facilities available*

*2.A.3 Lead organized outings, such as hikes or interpretive walks, at municipal open space and recreation facilities*

*2.A.4 Communicate regularly with various press outlets regarding open space and recreation opportunities and successes*

*2.A.5 Improve information available at the library and on the town website, including trail maps and assessor's information*

*2.A.6 Develop conservation, recreation, and planning programs to be presented on Community Access TV.*

*2.A.7 Establish a school-based conservation club and/or Envirothon team, and consider service-learning projects or classroom programming on town-owned conservation land*

Objective 2.B Assure adequate access to all conservation areas

*2.B.1 Conduct assessment of all access points to existing conservation areas (parking areas, trail access, handicap accessibility, right-of-ways, signage, visibility)*

*2.B.2 Improve/enhance access points in accordance with the assessment*

*2.B.3 Acquire new points of access in accordance with the assessment*

Objective 2.C Manage existing open space/recreation assets to maximize community benefit

*2.C.1 Promulgate and disseminate clear rules for the use of municipal conservation and recreation areas*

*2.C.2 Contract professional, licensed foresters to create "Forest Stewardship Plans" for several town conservation areas to identify management needs and opportunities, including potential timber harvests*

2.C.3 Adequately mark trails and boundaries of existing town conservation areas to maintain integrity of those areas

2.C.4 Provide regular maintenance to access points to assure clean, safe, and visible access to all properties

2.C.5 Establish a "volunteer steward" program for the town's open space properties, and encourage community and/or individual projects (such as school-led or Eagle Scout projects) to implement management needs

2.C.6 Conduct assessment of all active recreation facilities to identify management needs and opportunities for enhancement.

2.C.7 Improve/enhance active recreation facilities in accordance with the assessment

2.C.8 Update inventory of shade trees of highest community value along public ways and on public spaces, and develop a by-law to protect them .

#### Objective 2.D Improve funding for open space and recreation needs

2.D.1 Integrate open space and recreation needs into the Capital Plan

2.D.2 Pass Community Preservation Act to establish funding source for these needs, and provide match dollars to grant-funding opportunities

2.D.3 Provide for and encourage local business and individual donations for open space and recreation projects

2.D.4 Dedicate revenues from sustainable forestry conducted on town-owned property for conservation and/or recreation uses based on the development of a forestry management and stewardship plan.

### **Goal 3 Provide New Open Space and Recreation Opportunities.**

Some important places in town are not adequately protected, and some areas of town and segments of the population are underserved for open space and recreation opportunities.

#### Objective 3.A Improve adult recreation programming

3.A.1 Establish adult intramural teams/leagues for organized sports

3.A.2 Cooperate with local groups to lead periodic outings in town or on town-owned properties (such as hikes, cross-country skiing, bike rides, etc.)

#### Objective 3.B Evaluate potential for new open space/recreation facilities

3.B.1 Create a special committee to evaluate Maplewood Golf Course for municipal purposes, including as a municipal golf course, cross-country ski park, recreation fields and facilities, and open space

3.B.2 Investigate potential site(s) for an ice skating facility/area

3.B.3 Investigate potential site(s) for bike/passive use trails within the town

3.B.4 Investigate ways to interconnect and/or expand sidewalks amongst the most densely populated portions of town and the available recreation areas and open spaces as suitable

## SECTION 9: *Five-Year Action Plan*

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As the Open Space and Recreation Plan planning process winds down, the Open Space Sub-Committee of the Land Use Advisory Committee and the community as a whole are looking forward to transitioning into an implementation role. However, Lunenburg has never before had an independent committee or sub-committee specifically focused on implementing OSRP goals and objectives. It will be important for this committee to remain committed to serving an "advisory" role in support of the primary decision-making and regulatory bodies and associated staff within town government – namely, the Selectmen, the Planning Board, the Conservation Commission, the Recreation Committee, the Finance Committee, and Town Meeting. This will be critical to making meaningful progress on our open space and recreation goals and objectives.

The Open Space Sub-Committee is also mindful that this plan is being completed amid a global recession. Everyone is struggling to do more with less; families and governments alike are making tough decisions with limited resources. The action plan needs to reflect the difficult financial circumstances of the times. But it is also important to recognize that open space and recreation opportunities are not luxuries – these are critical to the quality of life in Lunenburg. In fact, the recession makes having such opportunities close to home more important than ever as people have more budget-saving "stay-cations" as alternatives to expensive vacations. Improving these resources for our fellow residents is a critical role of the Open Space Sub-Committee.

Combined, the two realities of a tough financial environment and a new focus on open space and recreation goals underscore the need to keep this action plan relatively simple, straight-forward, and cost-effective. The most important thing that this plan and its implementation can produce is positive momentum. Therefore, the action items in this plan start small, require little or no investment, and are intended to create successes on which to build incrementally. Dedicated staff and volunteer time has produced this plan, and most of the action items identified in this plan would be accomplished in a similar manner. The next time this plan is revised, the community should be able to point to a clear track record of improvements to our open space and recreation resources, and we should be better positioned for future opportunities.

This action plan is organized according to Goals and Objectives listed in previous sections:

**Goal 1: Maintain Rural Character**

Objective	Action Item (Year)	Responsible Party	Funding Source (Estimated Cost)
A) Keep Lunenburg's Farms Viable	<ol style="list-style-type: none"> <li>1. implement a tracking process to prevent issuance of local permits for unauthorized construction on protected farmland (<b>Year 1</b>)</li> <li>2. Resolve Woodruff Property (<b>Year 1-2</b>)</li> <li>3. Explore the role of an Agricultural Commission or like entity to address the needs of the agricultural community, and consider establishing such entity (<b>Year 2</b>)</li> <li>4. identify/inventory/map farmland to be protected (<b>Year 2-3</b>)</li> <li>5. enact a municipal Right-to-Farm bylaw, and review/revise existing agricultural bylaws as needed (<b>Year 3-4</b>)</li> <li>6. promote local and regional direct marketing opportunities, including but not limited to enhancing Lunenburg's newly-established farmers' market (<b>ongoing</b>)</li> </ol>	<ol style="list-style-type: none"> <li>1. Assessor and Building Department</li> <li>2. Selectmen, Conservation Commission</li> <li>3. Selectmen, Open Space Sub-Committee</li> <li>4. Open Space Sub-Committee, Agricultural Commission</li> <li>5. Planning Board, Agricultural Commission</li> <li>6. Agricultural Commission</li> </ol>	<ol style="list-style-type: none"> <li>1. \$0</li> <li>2. \$0</li> <li>3. \$0</li> <li>4. \$0</li> <li>5. \$0</li> <li>6. \$0</li> </ol>
B) Conserve the most important wildlife habitats and drinking water resources	<ol style="list-style-type: none"> <li>1. Create a policy and process for responding to Chapter 61(A,B) opportunities across municipal boards and departments (<b>Year 1</b>)</li> <li>2. Provide detailed information for citizens on land conservation techniques, such as conservation restrictions, bargain sales, Chapter 61(A,B) enrollment, etc. (<b>Year 2</b>)</li> <li>3. Identify/inventory/map properties of highest resource value (<b>Year 2-3</b>)</li> <li>4. Develop a process for reaching out to owners of the highest-priority, unprotected lands, and implement direct dialogue with such owners (<b>Year 4</b>)</li> <li>5. Engage assistance of non-profit partners for conservation such as North County Land Trust, Nashua River Watershed Association, and other local organizations (<b>on-going, as-needed</b>)</li> </ol>	<ol style="list-style-type: none"> <li>1. Selectmen, Open Space Sub-Committee</li> <li>2. Open Space Sub-Committee, Conservation Commission, Assessors</li> <li>3. Open Space Sub-Committee, Conservation Commission</li> <li>4. Open Space Sub-Committee, Conservation Commission</li> <li>5. Open Space Sub-Committee, Conservation Commission</li> </ol>	<ol style="list-style-type: none"> <li>1. \$0</li> <li>2. \$0</li> <li>3. \$0</li> <li>4. \$0</li> <li>5. \$0</li> </ol>



**Goal 2: Enhance and Promote Existing Open Space and Recreation Assets**

Objective	Action Item (Year)	Responsible Party	Funding Source (Estimated Cost)
A) Improve community awareness of existing open space/recreation assets	<ol style="list-style-type: none"> <li>1. Create trail maps for existing conservation areas and/or a guide to public recreation facilities available (<b>Year 1-5</b>, trail maps for at least 3 properties)</li> <li>2. Lead organized outings, such as hikes or interpretive walks, at municipal open space and recreation facilities (<b>on-going</b>)</li> <li>3. Communicate regularly with various press outlets regarding open space and recreation opportunities and successes (<b>on-going</b>)</li> <li>4. Improve information available at the library and on the town website, including trail maps and assessor's information (<b>Year 3-5</b>)</li> </ol>	<ol style="list-style-type: none"> <li>1. Open Space Sub-Committee, Conservation Commission</li> <li>2. Open Space Sub-Committee, Conservation Commission</li> <li>3. Open Space Sub-Committee, Conservation Commission</li> <li>4. Open Space Sub-Committee, Library Staff, Technology Staff</li> </ol>	<ol style="list-style-type: none"> <li>1. \$0</li> <li>2. \$0</li> <li>3. \$0</li> <li>4. \$0</li> </ol>
B) Assure adequate access to all conservation areas	<ol style="list-style-type: none"> <li>1. Conduct assessment of all access points to existing conservation areas (parking areas, trail access, handicap accessibility, right-of-ways, signage, visibility, <b>Year 3-5</b>)</li> </ol>	<ol style="list-style-type: none"> <li>1. Open Space Sub-Committee, Conservation Commission</li> </ol>	<ol style="list-style-type: none"> <li>1. \$0</li> </ol>
C) Manage existing open space/recreation assets to maximize community benefit	<ol style="list-style-type: none"> <li>1. Contract professional, licensed foresters to create "Forest Stewardship Plans" for several town conservation areas to identify management needs and opportunities, including potential timber harvests (<b>on-going</b>)</li> <li>2. Identify/inventory/map shade tree of highest community value along public ways and on public spaces, and develop a by-law to protect them (<b>Year 2-3</b>)</li> <li>3. Conduct assessment of all active recreation facilities to identify management needs and opportunities for enhancement (<b>Year 3</b>)</li> <li>4. Establish a "volunteer steward" program for the town's open space properties, and encourage community and/or individual projects (such as school-led or Eagle Scout projects) to implement management needs (<b>Year 4</b>)</li> <li>5. Adequately mark trails and boundaries of existing town conservation areas to maintain integrity of those areas (<b>Year 4-5</b>)</li> <li>6. Provide regular maintenance to access points to assure clean, safe, and visible access to all properties (<b>Year 4-5</b>)</li> </ol>	<ol style="list-style-type: none"> <li>1. Conservation Commission</li> <li>2. Historical Commission, Planning Board, Open Space Sub-Committee, Planning Board</li> <li>3. Recreation Committee, Park Department, Open Space Committee</li> <li>4. Open Space Sub-Committee, Conservation Commission</li> <li>5. Conservation Commission, Volunteer Stewards</li> <li>6. Conservation Commission, Volunteer Stewards, Public Works Department</li> </ol>	<ol style="list-style-type: none"> <li>1. \$0</li> <li>2. \$0</li> <li>3. \$0</li> <li>4. \$0</li> <li>5. \$0</li> <li>6. \$0</li> </ol>
D) Improve funding for open space and recreation needs	<ol style="list-style-type: none"> <li>1. Integrate open space and recreation needs into the Capital Plan (<b>on-going</b>)</li> <li>2. Dedicate revenues from sustainable forestry conducted on town-owned properties for conservation and/or</li> </ol>	<ol style="list-style-type: none"> <li>1. Selectmen, Finance Committee, Open Space Sub-Committee</li> <li>2. Selectmen, Finance</li> </ol>	<ol style="list-style-type: none"> <li>1. Seed money for materials or matching</li> </ol>

	recreation uses ( <b>Year 1-2</b> ) 3. Encourage and secure local business and individual donations for open space and recreation projects ( <b>on-going, as needed</b> ) 4. Explore passage of Community Preservation Act to establish funding source for open space/recreation needs and to provide match dollars to grant-funding opportunities ( <b>Year 4-5</b> )	Committee, Conservation Commission 3. Open Space Sub-Committee, Conservation Commission, Recreation Committee 4. Selectmen, Finance Committee, Open Space Sub-Committee	funds for small projects, \$500 - \$1,000 per yr. 2. \$0 3. \$0 4. \$0
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### **Goal 3: Provide New Open Space and Recreation Opportunities**

Objective	Action Item (Year)	Responsible Party	Funding Source (Estimated Cost)
A) Improve adult recreation programming	1. Establish/enhance adult intramural teams/leagues for organized sports ( <b>on-going</b> ) 2. Cooperate with local groups to lead periodic outings in town or on town-owned properties (such as hikes, cross-country skiing, bike rides, etc., <b>on-going</b> )	1. Recreation Committee, Park Department, School Committee, Open Space Sub-Committee 2. Open Space Sub-Committee, Conservation Commission	1. \$0 2. \$0
B) Evaluate potential for new open space/recreation facilities	1. Investigate/evaluate potential site(s) for an ice skating facility/area ( <b>Year 3-4</b> ) 2. Investigate/evaluate potential site(s) for bike/passive use trails within the town ( <b>Year 3-4</b> ) 3. Evaluate Chapter 61(A,B) "right of first refusal" opportunities as they arise for potential open space/recreation acquisition according to new policies and identified priorities, and acquire such priority properties as reasonable and prudent ( <b>on-going</b> )	1. Recreation Committee, Park Department, School Committee, Open Space Sub-Committee 2. Open Space Sub-Committee, Conservation Commission 3. Selectmen, Open Space Sub-Committee, Conservation Commission, Recreation Committee	1. \$0 2. \$0 3. Conservation Fund, Community Preservation Fund (if established), Town Meeting appropriation, State Grant Programs, \$ as needed

If this five-year action plan is carried out, Lunenburg will be very well positioned to take advantage of grant opportunities available through the Massachusetts Executive Office of Energy and Environmental Affairs Division of Conservation Services for future open space and recreation improvements. These and other outside funding sources will be crucial to maintaining and enhancing those resources in the long-term.

## SECTION 10:

*SURVEY COMMENTS*

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Public Comments from Survey (These suggestions were provided by the citizens who responded to the survey.)

CONSERVATION More information to public on 61, 61A, 61B  
 Jogging Walking Trails  
 Nature Center/Classes  
 Bike Trails  
 Maps of Conservation Areas  
 Dog Park  
 Guided Tours of historical sites on town land  
 Band Concerts every week all summer  
 Wheelchair accessibility at conservation and recreational areas  
 Picnic Areas  
 Cross Country Ski Trails  
 Clean/upkeep on conservation land  
 Snow Shoe Trails  
 Summer programs for kids-Arts & Crafts, Games, etc

HICKORY HILLS Public Access  
 Swimming Availability

LAKE SHIRLEY More public access  
 Public Boat Ramp  
 Town take over Shady Point

MARSHALL POND Clean up weeds

MASSAPOAG Public Access

PARK/RECREATION Tennis courts need updating  
 Tennis Courts at Marshall Park  
 Town Beach open longer  
 Expand Town Beach  
 Ice Skating at Town Beach  
 Rate Changes-kids under 12 free, over 55 50% off  
 Wallis Park Cleanup  
 Skateboard Park  
 Soccer  
 Basketball  
 Volleyball  
 Tennis Lesson  
 Fitness Trail & program  
 Golf Course

	Weightlifting
	Walking Program
	Lacrosse
	Senior Softball
	Horse Shoe Courts
	Town Gym
	Activities for pre-teens
	Free Town events
	Return of Annual Bonfire
	Town support for Teen Center
	Parking Area off Chestnut Street for Marshall Park
SCHOOL	Make available for more public use
	Track & Fields available for public use
SELECTMEN	Outings, Field Days, Town Park
	Make attractive and encourage new business/industry
	Farmer's Market
WHALOM LAKE	Cleanup Lake

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